THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

VOLUME XLV — JUNE 1937 — NUMBER 6

Educational News and Editorial Comment

THE PLIGHT OF THE CHILD-LABOR AMENDMENT

Friends of the Child-Labor Amendment to the federal Constitution have lost hope of securing its ratification this year by the requisite number of state legislatures. The impasse is especially astonishing in view of the widespread popular support of the amendment. Results of a poll conducted by the American Institute of Public Opinion, the same agency which so accurately predicted the outcome of last autumn's presidential election, showed 76 per cent throughout the nation as favorable to the amendment. Moreover, majority sentiment was found favorable in every state, with two-thirds or more favorable in thirty-six states. In New York State, where the Assembly recently defeated ratification by a vote of 102 to 42, the proportion in the popular poll found to be for the amendment was 83 per cent. The poll showed a marked increase in sentiment for the amendment, as compared with a poll taken by the institute nine months before, when the percentage favoring the amendment was 63.

Approval of the amendment is now for the most part nonpartisan, as seen in the fact that 67 per cent of the Republican votes were cast for it in the recent poll. Also, it has been indorsed by former Presi-

dent Hoover and former Governor Landon, as well as by President Roosevelt.

One finds it hard to believe that the will of such an overwhelming majority of the people cannot be put into effect by approval in the small number of additional states still required for ratification. The explanation is, to be sure, in the pressure on legislators from powerful and militant minorities. These are chiefly two: a reactionary economic group and the Catholic Church. The reactionary economic group is interested in continuing its profitable exploitation of children and, according to the *American Child*, source of most of the information here presented, is guilty of the use of "shameful tactics." The Catholic opposition emerges, according to the same source, in a mistaken conviction that the amendment invades the rights of a religious group. It is exceedingly unfortunate that two such divergent motives—the one reprehensible, while the other is presumably posited in good intention—should combine to flout the popular will and obstruct social progress.

Although approval by the requisite number of states this year is unlikely, it does not seem that the will of such a large majority can for much longer be flouted. What is needed is militancy on the part of friends of the amendment. In view of the proportions favorable there should be no acceptance of compromise amendments that would reduce ages of the children protected or otherwise weaken the protective provisions. It is preferable to press for ratification of the present draft. Supporters of the amendment should heed the admonition of the *American Child:*

> The collective support of those who want to see this amendment in effect must be exerted. Ordinarily those who oppose a measure are more vocal than those who support it. The 24 per cent who are against the amendment will make their wishes known in no uncertain way. It is up to the 76 per cent of the people who *favor* it to make their voices heard—and heard in their own state legislatures.

Certain Trends in Secondary Education

The statistics of public high schools in the United States for 1933–34 are now at hand in the advance pages of chapter v of the *Biennial Survey of Education in the United States: 1932–34*. Because the interpretive portions include comparisons, it is possible to note trends in

certain important aspects of secondary education, and the evidence is here drawn upon for that purpose.

Increase of reorganization.—The figures indicate, as stated by Carl A. Jessen, senior specialist in secondary education of the Office of Education, who prepared the text of the report, that "71.4 per cent of the high schools are of the regular type, that is, the pupils are offered four-year high-school courses following the completion of an elementary-school course of seven, eight, or nine years. The remaining 28.6 per cent of the schools are of the reorganized type, that is, they are operating on a plan other than the conventional ele-

TABLE I

PERCENTAGES OF PUBLIC HIGH SCHOOLS OF DIFFERENT ENROLMENT GROUPS IN 1926 AND 1934

Enrolment Group	1926	1934
Fewer than 50	32.4	19.9
50– 99	27.2	26.5
100–199	18.2	24.1
200–499	12.3	15.8
500–999	5.6	7.5
1,000 or more	4.3	6.2
Total	100.0	100.0

mentary school followed by a four-year high school." The percentages of reorganized schools in 1922, 1926, and 1930 are reported to have been 11.1, 19.4, and 26.0. Thus, there has been a rapid progression throughout the period from 1922. The partial slackening of junior high school reorganization between 1930 and 1934 can be explained by the great reduction in capital outlays for school plants during the economic recession: reorganization in most instances must wait upon the construction of new, or the remodeling of older, buildings. It is remarkable that reorganization made so much progress in these difficult years.

The size of schools.—The high schools of the country are increasing in size, as may be seen in Table I. One may note that, with the percentage of schools with fewer than 100 pupils dropping between 1926 and 1934 from 59.6 to 46.4, the median enrolment of high schools

rose during the interval from fewer than 100 pupils to more than 100 pupils. The report lists 40 high schools with enrolments in excess of 5,000, the two largest being De Witt Clinton and James Monroe High Schools of New York City, with enrolments of 13,374 and 11,357, respectively.

The evidence on enrolment recalls to mind two persistent problems in American secondary education—those of the small and of the large school. It appears that, even with a continued trend of increase in enrolments, we shall not soon, if ever, escape responsibility for improving the effectiveness of small schools. Comment in the

TABLE II

PERCENTAGES OF PUBLIC HIGH SCHOOL GRADUATES OF 1921, 1925, 1929, AND 1933 CONTINUING THEIR EDUCATION THE FOLLOWING YEAR

Year of Graduation	Attending College	Attending Some Other Institution
1921	32.1	14.1
1925	32.0	13.7
1929	31.5	12.9
1933	21.3	3.8

School Review has frequently called attention to the almost total lack of conclusive information concerning the optimum enrolments or concerning the most effective methods of administering schools of huge enrolments.

Distribution of pupils by grade.—The percentages of the total enrolments in each of the last four high-school years in 1934 were: first year, 32.5; second year, 27.4; third year, 21.9; and fourth year, 18.2. The percentages for the same years of the high school for 1920 were: first year, 40.1; second year, 27.0; third year, 18.8; and fourth year, 14.1. The percentages reflect the strikingly increased retention of pupils into the more advanced years with which everyone is now familiar, but they also disclose leeway for further retention.

Continuance of education by graduates.—The percentages of graduates of high schools continuing their education in college or some

other institution (Table II) dropped slowly between 1921 and 1929 and, on account of the economic recession, much more rapidly between 1929 and 1933. There is reason to believe that reports for years since 1933 will show some extent of recovery in increased percentages.

Proportions of men and women teachers.—The percentages of men teachers in "regular" (four-year) high schools for white pupils for 1920, 1930, and 1934 were, respectively, 36.1, 38.7, and 42.3. For reorganized schools the corresponding percentages, smaller because of the representation of junior high school grades, were 26.0, 30.5, and 34.0. The increase in the proportion of men must have resulted from operation of economic influences. The percentages of men teachers in schools for negroes, while typically larger, show no such consistent trend toward increase.

The publication supplying the basis of these comments contains evidence on other trends, as well as detailed information concerning conditions in individual states. It is Office of Education Bulletin No. 2, 1935, and it may be purchased for ten cents of the Superintendent of Documents, Washington, D.C.

Memoirs of an Educational Pioneer

Two adequate considerations have prompted publication in this issue of the article by Professor Hanus, which is a portion of a chapter in his book entitled *Adventuring in Education*, shortly to be published by the Graduate School of Education of Harvard University. One of these is the fact that the article yields an authentic glimpse through an eyewitness of a high school of a half-century ago. The reader cannot fail to note, as Professor Hanus puts it in the letter transmitting the manuscript, "the crudeness of public high school education in the eighties." The other consideration is Professor Hanus himself, who for more than this half-century has contributed signally to education both as practice in schools and systems and as a field of instruction in higher institutions. In order that readers may refresh their memories, if this is at all necessary, concerning Professor Hanus' place in American education, we quote the following sketch of his career prepared by Henry W. Holmes, present dean of the Graduate School of Education at Harvard University.

Paul Henry Hanus was born in Prussia in 1855; came to this country at the age of four; received the degree of Bachelor of Science from the University of Michigan in 1878; taught in the Denver High School, 1878–79; was instructor and later professor of mathematics in the University of Colorado, 1879–86 (with the exception of one year, 1880–81, in business); was principal of the Denver High School, 1886–90; was professor of "pedagogy" at the Colorado State Normal School, 1890–91. In 1891 Professor Hanus was called to Harvard University by President Charles W. Eliot to serve as assistant professor of the history and art of teaching. He was thus among the first regularly appointed teachers of education in American universities. His courses were not counted at the beginning for any university degree, and he had practically no contemporary educational literature for use in developing his instruction. By persistent effort and the repeated presentation of his cause to the Faculty of Arts and Sciences, he succeeded in developing a Division of Education in that faculty and a program of undergraduate and graduate instruction in his field. By 1906 he had succeeded in establishing education as a field in which the degrees of Master of Arts and Doctor of Philosophy could be attained and in which undergraduates were permitted to specialize for the Bachelor's degree; he had founded the Harvard Teachers' Association, the first university association of teachers in the country, and had participated in the establishment of regional and national associations.

Professor Hanus was chairman of the Massachusetts Commission on Industrial Education from 1906 to 1909 and participated in the reorganization of the Massachusetts State Board of Education, of which he was a member from 1909 to 1919. In 1911–12 he was in charge of the educational aspects of the school inquiry undertaken by the Board of Estimate and Apportionment of New York City. This was an early survey of the schools of a great city and established many principles of school surveying. He also conducted for the General Education Board, in 1917, a survey of Hampton Institute, and participated in a number of other school surveys.

It was largely in recognition of Professor Hanus' educational services, especially in the New York City survey, that the General Education Board made its first gift toward the endowment of the Graduate School of Education at Harvard University. Professor Hanus participated in completing this endowment, retiring from active service on September 1, 1921.

Problems for Investigation in Secondary Education

The National Committee on Research in Secondary Education had at work during 1936 a subcommittee to assemble and classify problems and questions in secondary education suggested for investigation. The membership of the committee included Professors Harl R. Douglass, W. C. Reavis, John Rufi, and D. H. Eikenberry

(chairman), respectively of the University of Minnesota, University of Chicago, University of Missouri, and Ohio State University. The committee sent requests for problems and questions needing investigation to names on a mailing list including about fifteen hundred persons in many relationships to secondary education, among them high-school principals, city superintendents, high-school teachers, professors of secondary education, and the like. Responses numbered 342 and contained a total of 1,456 suggested problems, which, when pruned for duplicates and apparently inconsequential problems, was reduced to approximately a thousand.

These were classified under eleven headings, of which "Secondary-School Population" and "Curriculum and Method" are illustrative, and the entire list was submitted as the committee's report and reproduced for distribution to interested persons. Copies may be secured on request to the secretary of the National Committee on Research in Secondary Education, Carl A. Jessen, senior specialist in secondary education, Office of Education, Washington, D.C.

Activities of the American Youth Commission

The American Youth Commission of the American Council on Education has now been in existence and at work long enough to call for another brief statement here with regard to its concerns and activities. The statement is made possible by the appearance of a brochure recently published by the council, which is called *Activities of the American Youth Commission* (copies may be secured by addressing the commission at 744 Jackson Place, Washington). The "youth problems" identified by the commission, as listed in the brochure, are: (1) the employment and vocational adjustment of youth; (2) general secondary education; (3) equalization of educational opportunity; (4) recreation; (5) health; (6) character and religious education; and (7) special groups, including at least three, namely, rural youth, negro youth, and delinquents.

The activities proper of the commission are having to do with "identifying the problems of youth," "discovering the needs of youth," "evaluating the Civilian Conservation Corps," "exploring special areas," "gathering information on national agencies serving youth," "disseminating information on youth literature," "co-oper-

ating with other agencies," and "originating conferences." The brochure states that publications and reports are not yet ready but that information available on any of the problems under study will be sent on request.

Here and There among the High Schools

Items in this feature for this issue of the *School Review* have been reported from eleven schools in nine states with a geographic spread ranging from the Atlantic seaboard to the Pacific and from North to South. The number of innovations reported in recent weeks has been so large that many must be held over for report in autumn issues.

A high-school structure combining music hall and a small community building.—Following favorable outcome of an election authorizing a tax for the purpose, the school authorities of Mason City, Iowa, built a music hall for the high school which is also suitable for use, because of location and size, as a small gathering place for community meetings. The structure, as described by James Rae, principal, cost about twenty thousand dollars and is a one-story, ground-level, brick-and-stone-trim building on the high-school grounds, which are not far from the business district. It contains a variety of space provisions, chief of which is an auditorium and band room fifty feet square. At one end of this room are cement bleachers with rises of suitable height for accommodating a large band. On the opposite side of the room is a speaker's platform, near which are four practice-rooms, usable also as dressing-rooms when events of a type requiring them are taking place. A "public vestibule" on the side nearest the business district leads into the largest room. For pupils there is another vestibule, to the music hall, on the side of the new building adjacent to the high school. Other important rooms are a stringed-instrument room, which will comfortably seat fifty to seventy-five players; a room for storage of instruments; a music-library room; an office for the director; and toilets and service rooms. Walls are soundproof, and the building is so situated that sounds from the department of music no longer disturb work in other departments of the school.

An experimental course in algebra departing from tradition.—From

the Oakland High School of Oakland, California, of which L. P. Farris is principal, comes the description of an "experimental course in first-year algebra." The incentive for starting the new course was the purpose to serve better the "average academic student," who must offer two years of mathematics to meet college-entrance requirements and needs some training in mathematics but for whom the traditional course is not fully suitable. The new course is given in Grade X, whereas the usual course in first-year algebra is taken in this school, as in typical schools, in Grade IX. The arrangement is facilitated by the fact that Oakland High School is a six-year school. The course as outlined by Mrs. Ruth G. Sumner, the teacher, consists of the following eleven units: (1) numbers, their development and use; (2) geometric representation of number relationships through the media of graphs; (3) the development of units of measure and their use; (4) construction of simple geometric figures and the development of formulas; (5) simple equations and problem-solving; (6) four fundamental processes of algebra; (7) algebraic solution of linear equations; (8) further study in solutions of formulas; (9) special products; (10) continuance of geometric constructions and introduction of informal geometric proofs; (11) introduction to demonstrative geometry. It may be noted that, while the new course includes the beginnings of demonstrative geometry, it leaves the more difficult factoring and the use of quadratics for the second year. In these and other ways it seems to be a step toward composite, or general, mathematics. The relation between the development of mathematics and civilization is stressed throughout the course, and there is constant application of the principles to the solving of problems based on life-needs. Principal Farris writes that no conclusions are yet offered from the experiment but that in time they "expect to have some very strong opinions."

A class in nutrition that plans, prepares, and serves lunches for malnourished pupils.—J. E. Tanis, principal, reports that for several years in the Northern High School of Detroit, Michigan, all pupils have been examined for symptoms of tuberculosis. During the examinations a great many pupils have been discovered who were decidedly underweight, and a class in nutrition has been organized by the department of home economics to try to remedy the condition.

Each semester a group of pupils who are primarily interested in the practical side of food study meets daily for ninety minutes to plan, prepare, and serve a highly nutritious luncheon to selected malnourished pupils. Menus are planned in advance by the acting chairman, checked and accepted by the teacher, and filed in a book which is available for reference to members of the class. The chairman assigns duties to other members of the class by posting a daily job sheet and rotating duties. Following is further description of the plan of operation and results.

The first forty-five minutes of the period are devoted to setting the tables, attractive oilcloth place-mats being used for a touch of color, and to preparing and serving a luncheon, which includes a hot main dish, bread and butter, milk, salad, and dessert. As the bell sounds, the pupil guests enter and take their places. During the next twenty minutes a member of the class collects, counts, and records the amount of money received, the number of persons served, and the number of absences. The vice-chairman checks and records the grocery bill, and the committees make preparations for the following day. The pupils have, by this time, finished their luncheon. The last twenty minutes of the period find the class group briskly clearing away food, washing dishes, checking laboratory equipment, and leaving an orderly laboratory. As the final bell rings, there is no evidence of a luncheon's having been served.

A chart is kept in the classroom on which the weekly record of the individual weights is posted. The average gain per pupil per semester has always been satisfactory, varying from 1.7 to 2.7 pounds. The individual gains are most promising. The largest single gain in weight per pupil has been 10.5 pounds per semester.

The luncheon is served to the pupils at actual cost of materials, and the class is nearly self-supporting. Indigent pupils are not excluded but are provided for by interested groups in the school organization. The deficit never exceeds five dollars a month. The group averages thirty in a school enrolment of twenty-seven hundred. Pupils conducting the class are given one-half unit of credit per semester in foods in the home-economics department. The Board of Health physicians who supervise the examinations contend that the special attention paid to these selected groups has prevented hospitalization in a number of cases. Only eighteen hospitalizations for pulmonary tuberculosis during the last six years seem to bear out this contention.

Differentiation in physical education to meet individual needs.—For two years the Washington Irving High School at Tarrytown, New York, has followed a plan in physical education devised to provide for individual differences. The plan is the work of Matthew Davidson, director of physical education. We quote the brief de-

scription of the plan prepared by Oscar F. Koch, principal of the school.

During the months of May and June we give physical-fitness tests to all pupils. From the scores on these tests, physical-fitness indexes are computed. The pupils are then ranked on the basis of these indexes. Three classifications are derived from this ranking: Group A, which consists of the highest fourth; Group B, consisting of the middle 50 per cent; and Group C, comprising the lowest fourth.

Pupils in Group A are excused from compulsory physical training but may attend the regular physical-training classes if they desire. These pupils are encouraged to enter intramural activities and special activities, such as hiking, riding, bowling, and horseshoe-pitching, under the guidance of pupil leaders.

The pupils in Group B take the regular physical-training work two days a week. They follow the usual program of physical-training activities as outlined in the New York State syllabus in physical education.

For Group C special classes have been organized. These classes meet five days a week. The work is largely individual and designed to build up the student in those things in which he is weak. The work consists of exercises on the horizontal bars, parallel bars, stall bars, rings, tumbling, climbing ropes, rope-skipping, boxing, and wrestling. A great deal of corrective work is accomplished in these classes. Tests are given from time to time, and the students keep graphs of their progress. When a pupil has raised his index to a satisfactory level, he may be transferred to the regular physical-training classes.

Besides providing for individual differences and affording an opportunity to discover and treat physical defects, this plan has greatly stimulated interest in the physical-training program on the part of our boys and girls.

Still another innovation in health education.—At the time of administering tests for tuberculosis in the Hagerstown (Maryland) High School, an officer of the state's department of health found that many students were interested in knowing certain facts about health and about the prevention, symptoms, and treatment of various diseases. As it was impossible for him to talk with each pupil, he agreed to answer the questions through the school paper. The procedure, as described by John D. Zentmyer, principal of the school, is as follows: Pupils having questions write them down and place them in sealed envelopes. Names of pupils submitting the questions must appear on the questions in order to assure sincerity of the inquirers. Members of the paper's staff collect the envelopes from the home rooms. We quote a number of examples of the questions submitted and answered.

Is chewing gum harmful to the digestive system? Does it aid digestion? What effect does chewing gum have on the teeth?

Is it harmful to the scalp to bleach one's hair?

Is there anything harmful in Coca-Cola?

What are the most desirable foods to obtain a good complexion?

What is a good form of mild exercise?

Can exercising be overdone to the extent that it will be harmful?

What is the best way of reporting unsanitary conditions inside the city limits?

How many hours of sleep are required by persons of high-school age?

Are high-heeled shoes injurious to the functions of the body?

Is it safe to go without one's breakfast?

Is it better for a pupil to eat a heavy breakfast and a light lunch, or a light breakfast and a heavy lunch?

Are cigarettes injurious to the voice?

Two schools with radio broadcasts.—The Knoxville (Tennessee) High School conducts daily radio broadcasts, which, according to the principal of the school, W. E. Evans, have been found to be most valuable in carrying the school to the patrons. S. Boyd Parker, chairman of the school's radio committee, writes that the daily programs have been given for almost three years. The activity is financed and sponsored by the parent-teachers' association and is made possible through the co-operation of one of the local stations. The studio in the high-school building is equipped with amplifier, microphone, and telephone and is so wired as to permit broadcasting from the school auditorium. The preparation and production of all programs has been organized, and certain duties have been assumed by interested members of the faculty, who supervise the work, and by a capable committee of pupils. Pupil mechanics care for the equipment daily, and trained pupil announcers function effectively.

Another high school which is experimenting with broadcasting direct from the school building is the one at Jeffersonville, Indiana. Elmer L. Hoehn of the faculty is the program director, and the outlet is Station WGRC. The facilities were provided by co-operation of the station with H. B. Vorgang, principal of the high school, who is well versed in radio, announcing, and program direction. All departments and organizations of the high school and elementary schools of the city are encouraged to avail themselves of the service. The programs are varied and include activities by the glee club, band, orchestra, class in journalism, commercial club, department of science, student council, elementary schools, and the like.

A public-address system at low cost.—The high school at Bel Air, Maryland, of which Earle T. Hawkins is principal, has a public-address system covering thirty classrooms, a shop, and an auditorium. Having such a system is no longer a novelty in schools, but securing one at the low cost of three hundred dollars *is* unusual. The explanation of the low cost of the system resides in its having been assembled and installed by the principal, a teacher, and some pupils in the high school. Installation is in a Governor Winthrop secretary in the principal's office and the secretary, when closed, gives no hint of its function.

Student forums in two schools.—A letter from Arthur V. G. Upton, principal of the Morgantown (West Virginia) High School, indicates that this institution is conducting the first Youth Forum in the United States as a part of the forums that have been inaugurated by Commissioner Studebaker of the United States Office of Education. The school is offering to pupils enrolled in social science the opportunity to attend forums during regular class periods once each week, the forums being conducted by outstanding leaders furnished by the forum center. A speaker conducts such a forum each day of the school week, for example, during the first period on Monday, the second period on Tuesday, etc. The school has found that the forums create an intelligent interest in current problems to such an extent that it is difficult to keep enough source material available in the library.

In the high school of Austin, Texas, a plan of "Student Forums" is being developed which has as its foundation an organization of pupils known as the "Forum Leaders Group," which is sponsored by the head of the social-science department. The group is composed of about thirty pupils in the advanced classes of the school. These pupils do extended work on a list of subjects prepared for presentation under the direction of the sponsor. They also have the privilege of suggesting subjects that they would like to present to groups of pupils. Each of these groups is composed of twenty to forty pupils who elect to meet in regular classrooms with pupil forum leaders. As many as seven to eight hundred pupils have chosen to participate in the forums. It is the opinion of the principal, George H. Wells, that the plan has "functioned rather well" during the short trial

given it and that it has aroused interest on the part of pupils in the local adult open forum.

A school claimed to be novel because not innovating.—From the principal, S. J. Halley, of the Joint Union High School at Courtland, California, we have received a communication in which he sets forth his school as novel for its conservatism. Because many readers will find the statement interesting, we quote the most of it.

> Our school is a novel school in a very peculiar sense. Its novelty consists entirely in its conservatism. We have changed our curriculum to conform fairly well with modern requirements, but our methods of management and instruction are so old that they are strangely new to most young teachers just out of college. We are not an experimental school. We decided some years ago to let other schools do the experimenting. We would just quietly observe what they were doing, and, if we found anything that we considered worth adopting, we would adopt it, ...
>
> We have graduated within the last fifteen years or more from this small school approximately four hundred young people, and I cannot recall one who is living on the bounty of the federal government. . . . .
>
> Our school is just a plain, practical, common-sense school. We are not guided by any philosophy of education, but largely by what we see with our own eyes. To us, observation has many times the value of philosophic theory. . . . .
>
> We most assuredly believe in arousing the interest of the pupil, and, in order to do so, we shall attempt to use every legitimate means at our command, but we shall not go to the extreme of making a game out of every exercise. Work is just as essential as play, and difficult tasks well done constitute a very vital factor in the building of character. Quiet, order, system are conducive to good work; without quiet, order, system, there can be no good work.
>
> The six-hour day seems to be taking the country like wildfire, and according to the progressive practices a high-school pupil should be required to do no home work. During his Freshman year at college he is expected to do thirty hours a week or more. A rather broad jump from no home work at all to thirty hours a week. Wherein lies the logic of such practice? Our school requires home work, especially in the upper grades.
>
> I know that I am an iconoclast; but my iconoclastic efforts are directed toward breaking to pieces, not the worth-while images of conservatism, but some of what appear to me to be the useless images of ultra-progressivism.

We are not disposed to argue with Principal Halley concerning the merit of the policy of his school: it has been the aim in this feature, "Here and There among the High Schools," to report practices faithfully, with a minimum of appraisal and argument. It seems, however, only fair to say in brief comment on his letter that few, if any, of the persons who report the innovations described in the fea-

ture are characterized by "ultra-progressivism" or are lost in the clouds of "philosophic theory." Rather, they are, like Principal Halley, practical school people seeking acceptable ways of making the school effective. The chief difference between them and him, as we understand him from his own statement, is that they are more committed to invention than he is.

The Institute for Administrative Officers of Higher Institutions

The Institute for Administrative Officers of Higher Institutions will be held in the Lounge of Judson Court, the University of Chicago, on July 14, 15, and 16, 1937. A most cordial invitation to attend is extended to administrative officers of all higher institutions, including liberal-arts colleges, universities, teachers' colleges, and junior colleges. Arrangements have been made for those who attend the institute to visit classes and to enjoy other University privileges without the payment of fees. Room and board will be provided in the dormitories adjacent to the conference rooms from Wednesday morning, July 14, to Friday evening, July 16, for $8.50. Reservations may be made through William J. Mather, Bursar of the University of Chicago. For additional information address William S. Gray, Department of Education, University of Chicago.

The program of the institute is organized around six current issues of major importance in the field of higher education. Each issue will be introduced by two speakers who hold more or less divergent views. Their presentations will be followed by vigorous discussion from the floor. Ample time has been reserved to permit extended discussion of the various problems involved.

Wednesday Morning, July 14

"Should a Bachelor's Degree Be Granted at the End of the Junior-College Period?"

a) George A. Works, Professor of Education; Dean of Students and University Examiner, University of Chicago

b) Carter Davidson, President, Knox College, Galesburg, Illinois

Wednesday Afternoon, July 14

"What Is the Place of a Liberal-Arts Program in Light of Current Educational Trends?"

a) James L. McConaughy, President, Wesleyan University, Middletown, Connecticut

b) Charles H. Judd, Head of the Department of Education, University of Chicago

Thursday Morning, July 15

"Should Election or Prescription Be Given the Greater Emphasis in the Organization of College Programs?"

a) A. J. Brumbaugh, Professor of Education; Dean of Students in the College and Acting Dean of the College, University of Chicago

b) E. J. McGrath, Assistant Professor of Education and Assistant to the Chancellor, University of Buffalo

Thursday Afternoon, July 15

"How May Recruiting among Higher Institutions Be Placed on a Sound Basis?"

a) Milton C. Towner, Assistant to the President, Lawrence College, Appleton, Wisconsin

b) Herbert A. Toops, Professor of Psychology, Ohio State University

Friday Morning, July 16

"Relation of the Federal Government to Education with Special Reference to Higher Education"

a) Alphonse M. Schwitalla, S.J., Dean of the School of Medicine, St. Louis University

b) Newton Edwards, Professor of Education, University of Chicago

Friday Afternoon, July 16

"Shall a Master's Degree Be Required of Prospective Secondary-School Teachers?"

a) R. M. Ogden, Professor of Education and Dean of the College of Arts and Sciences, Cornell University

b) Henry W. Holmes, Dean of the Graduate School of Education, Harvard University

Who's Who in This Issue

Reference has been made above to Professor Paul H. Hanus under the heading "Memoirs of an Educational Pioneer." Hugh M. Morrison, research assistant in the Department of Education at the University of Chicago. Royal B. Embree, Jr., director of personnel at the University High School, University of Minnesota. Emil M. Besch, formerly superintendent of schools at Parkers Prairie, Minnesota. Harlan C. Koch, assistant director of the Bureau of Co-operation with Educational Institutions at the University of Michigan. Frances Swineford, research assistant in the Department of Education at the University of Chicago. Karl J. Holzinger, professor of education at the University of Chicago.

HIGH-SCHOOL PIONEERING: DENVER HIGH SCHOOL, DISTRICT NO. 2, 1886–90[1]

PAUL H. HANUS
Professor Emeritus, Harvard University

In the spring of 1886 a principal was to be appointed for Denver High School, District No. 2.[2] Denver had at that time three high schools: High School, District No. 1, the original high school of the city, where I had taught in 1878–79, usually referred to as the Denver High School; High School, District No. 2; and High School, District No. 17. The district numbers were the numbers of the county school districts which Denver had covered in its growth, and each district had its own independent school system. In after years the districts within the city were consolidated into one city school system.

On one of my excursions into the foothills just west of the University of Colorado, I had been delighted to find, in a cranny between two huge rocks, a rather rare species of fern (grass-like in appearance), and on my way home I stopped to examine my find. While I was thus occupied, a buggy drove up with two men in it. One of them was Dr. H. F. Wegener, superintendent of Denver School District No. 2, whose hobby was botany. I had met Dr. Wegener at teachers' gatherings and did not know him well, but I knew that he was an amateur botanist. It happened that he had never seen a specimen of my fern and was consequently much interested in it. I knew also that he was looking for a principal for the high school of his district.

Before he and his friend drove on, I had told him of my intention to resign my post in the University and of my desire to be a high-school principal. He was interested and said that I would hear from

[1] An excerpt from a chapter of *Adventuring in Education*, a volume to be published soon by the Harvard Graduate School of Education.

[2] At the time I was professor of mathematics at the University of Colorado at Boulder.

him. I also told him that I had made a collection of more than a hundred bird skins (birds of Boulder County), which I was ready to offer to anyone who would have them mounted and keep them on display. He thought his school board would do that and thus begin a collection for a natural-history museum, something which he had long wanted.

It was not long before Dr. Wegener wrote that he had nominated me to the board and that he was sure that the board would appoint me to the principalship. They did so, and I accepted the appointment.

I sacrificed some salary in accepting this appointment, but I had reached the definite conclusion that my career lay in the field of education, not in mathematics, and that my next step should be a principalship. So, at the beginning of the school year 1886–87, I was again established in Denver, this time as principal of Denver High School, District No. 2.

District No. 2 was that part of Denver west and south of Cherry Creek, which flows (when there is any water in it) through the city. The business section of the city was east of Cherry Creek, and there also were most of the best residential sections, although there were already some good residences in the southern part of District No. 2. The wealth of the city was east of Cherry Creek, in District No. 1.

Denver High School, District No. 2, served a fairly populous but not, for the most part, socially prominent or wealthy part of the city. When I became principal of that school, it was emerging as a distinct unit of the district's school system. The superintendent of the district system had had general charge of the high school as acting principal, in addition to his other duties. As will presently appear, he had little conception of what a good high school should be and was relieved, at first, I am sure, when a principal of the incipient high school of his district was appointed.

During my entire term of a little more than four years as principal, the high school occupied the upper floor of an elementary-school building—the Franklin School, the best school building of the district. We had a large lower entrance hall, which was generally wasted space but which, when furnished with a stage and with seats for an audience of several hundred persons, rendered good service for pub-

lic exercises of the school; an assembly room capable of seating about a hundred pupils; two recitation rooms; a very small office for the principal; and a small chemistry laboratory in the basement (where, of course, it ought not to have been). There were about forty high-school pupils divided into three classes, for the high-school "course of study" was a three-year "course." The teaching staff consisted, during my first year, of two full-time teachers, besides the principal, and two part-time teachers of German and singing.

During those four years the high school grew rapidly. In September of 1890 there were about 150 pupils and four full-time teachers, besides the principal. The quarters occupied by the high school were crowded before that date, and for some time I had urged the superintendent and the Board of Education to secure a site for a high-school building. It was not, however, until I had left the school that a new building was actually erected. That high school has now more than two thousand pupils and a corresponding staff of teachers. But to return to the school during my principalship.

I have already said that the "course of study"[1] covered only three years. My first efforts were accordingly directed to lengthening the course of study to four years in order to bring it into harmony with the courses of other high schools, which at that time were, almost everywhere, four-year courses. That effort was not completely successful until the last year of my principalship. There was a transition period during which the fourth year was optional. Pupils might be graduated in three years if they wished. Few were, however, and by the fourth year of my principalship, as I have said, the four-year course was established as the only course of the school.

The chief reason for so long a transition period was the fear of the superintendent that pupils would not stay four years to be graduated and that, if we required them to take four years, they might attend the east-side high school in spite of the tuition which they would have to pay. Of course, I pointed out that, as long as we had a voluntary fourth year, only the less ambitious pupils would take the three-

[1] I use the term "course of study" because it was the name then generally used to signify the total offering of a school. The term "program of studies" is now in common use to designate the entire offering of a school—made up of courses of study in English, history, French, etc.

year course and that we should lose the better pupils to the east-side high school, with which we were already in competition because of its better equipment and its acknowledged social superiority; that our responsibility was to make our high school as good as any in the city; that no one would argue that west-side pupils should not have equal educational opportunities with east-side pupils, so far as it was possible to provide them; and, finally, that four years was the minimum time for a good high-school education.

My next efforts were devoted to improving the program of studies, which was defective in many respects. For example, the only course in English was a one-term (about a third of the year) course in rhetoric and composition. No English literature was found in the program. To arouse an interest in English literature as a step toward a course in that field, I adopted a simple device. One recitation period of every week was set aside for a "literary exercise," the regular recitation of that period for that day being omitted. Thus, only one recitation of any week was "sacrificed" for the purpose in hand. I took charge of these literary exercises myself, but in co-operation with the pupils. That is to say, I appointed a committee from each class, in turn, to prepare the program of the literary exercise for a given day and then helped the committee to make out the program. In this way the whole school touched some of the best English and American literature during the year. Each program consisted of a brief account of a single author and readings from his works by two or three pupils. Since most of the pupils came from homes where little or no reading of English literature was known, it was gratifying to see the interest of the pupils grow from week to week. Toward the end of the first year most of the pupils looked forward to the literary exercises with interest, and some of them had begun to read more of the authors than the mere programs could present.

Another device which I found profitable was to make the annual library entertainment of the school an occasion for arousing or strengthening the interest of both pupils and parents in some of the best literature. The library entertainment had been an annual function from the time the high school was recognized as such. An admission fee of twenty-five cents was charged, and the proceeds were devoted to the purchase of books for the school library. There had

been three such entertainments before my time; but unfortunately they had been merely the presentation of farces by the pupils for the amusement of their audiences, and seemed to me also of questionable taste. Certainly they were not educative in any sense.

The first library entertainment under my direction was announced, somewhat pretentiously, as being devoted to "The Literature of the Age of Elizabeth and Readings from Dickens." As a matter of fact Elizabethan literature was represented only by one of Shakespeare's plays (*The Merchant of Venice*). I had abridged the play so that it could be presented within an hour. Scenery and costumes were prohibited, but it proved to be the *pièce de résistance*.

While I rehearsed the pupils who presented this play, I confirmed an opinion which I already held provisionally that, given the proper guidance, high-school pupils would not only understand and enjoy Shakespeare themselves but could cause a mixed audience to understand and enjoy Shakespeare too. I was not prepared, however, for the great appreciation of Shakespeare manifested by my youthful actors and for the good, in some cases really excellent, interpretations of Shakespeare that they gave. The Dickens readings at the same entertainment went well too but did not approach the triumph of the Shakespeare play. Thereafter, an abridged play of Shakespeare's formed the chief attraction of the library entertainments as long as I remained at the school. And always without scenery and costumes! This rule I felt compelled to prescribe because of some unfortunate experiences that I was told had accompanied the presentation of the farces of which I have spoken. I was glad to find that the absence of scenery and costumes did not detract at all from the performances but actually seemed to add to the enjoyment of both pupils and audiences, and it certainly enhanced the educational value of the whole undertaking for the pupils.

Two other devices which I succeeded in carrying out during my principalship served the same purpose that the improved library entertainment served, but in another way. I wanted to establish traditions of accomplishment in which the entire school could take satisfaction, in addition to whatever they might accomplish in the regular class work. To that end I offered, first, a prize for an annual "Oratorical Contest," that is, for the preparation of original compo-

sitions that should be delivered subsequently by the authors at a public meeting held for the purpose of deciding on the best oration and awarding the prize. The contest was open to any pupil, but the number of contestants was limited to ten. The judges were to take into account the subject matter, composition, and delivery of the orations. Three citizens of the district were appointed to act as judges.

To secure some public opinion among the pupils in support of this enterprise, I called into conference a dozen pupils before announcing it to the school and calling for volunteers to enter the contest. The response for the first contest was not encouraging, but, by dint of some persuasion and my promise to help, half a dozen pupils entered the contest. The public meeting was a complete success; and it happened, fortunately for the whole undertaking, that one of the most popular pupils won the prize. In subsequent years there was no dearth of candidates, and I had to adopt a scheme for the selection of the contestants. The scheme adopted was this: In order to be recognized as a candidate, a pupil must have made a good record in his regular work and must have been among the best pupils in English. If then there were still too many eligible candidates, the school chose ten candidates from the total number. In subsequent years a citizen of the district made himself responsible for the prize, and my own (first) offer was no longer needed.

The oratorical contests were open to both boys and girls. I wanted a similar contest open to girls only. So, I offered, in the second place, a prize for the best oral reading of an appropriate piece of literature by any girl in the school. The twelve candidates for the final contest were to be chosen by their schoolmates as follows: Each class was to select three of the best readers by vote of the class, the preliminary readings for choosing the final candidates to be held on four successive Fridays during the last recitation period of those days. The preliminary contest was compulsory for every girl in the school. Of course, I had conferred with the girls in advance of launching the whole project and found them, almost without exception, in favor of trying it. This scheme also proved to be a success, and even in the first year another citizen made himself responsible for the annual prize. The judges of the best reading were chosen as before.

It goes without saying that preparation for these public exercises entailed a great deal of extra work on the part of the principal and some of the teachers whose co-operation he enlisted as well as that of the pupils. But we found it all extremely interesting, and gradually nearly the whole school came to take as great an interest in it as we teachers did.

A somewhat elaborate device intended to give the citizens information about their high school was a series of public oral examinations which were held on the last day of each of the three terms of the school year and which the public was invited to attend. Committees of citizens, each consisting of three members, were appointed to attend the examinations. Each committee was asked to visit the examinations in which they might have a special interest—mathematics, Latin, science, and so on. Of course, the members of the committees were chosen in accordance with their preferences. Each examination lasted an hour, and the school day was lengthened accordingly. Each pupil of a class was required to draw one question at a time, in the presence of the committee and other visitors, from a number of slips on each of which a question had been written by the teacher, and after a few minutes each pupil in turn answered the question he had drawn. Except in classes of mathematics in which blackboard work was necessary, most pupils were called upon to answer several questions during the examination period; and, if there was time, the mathematics pupils answered more than one question. The committees were asked to report in writing on the impressions that they had received. As was to be expected, those reports were, in most cases, not very significant. But the committees and the other visitors at the examinations served the purpose of acquainting the public, to some extent, with the regular work of the school. These examinations, having served their purpose, were discontinued after two or three years, and written examinations took their place.

Had I remained longer as head of the school, I would have tried at least one other plan which should be educational and should contribute to school traditions. That plan was to have chosen pupils participate in the discussion of significant contemporary questions in at least one public symposium each year. The participating pupils for a given symposium would have been chosen for their avowed or

developed interest in the subject to be discussed, and each pupil so chosen would have supported or opposed the question, not because he was appointed to take one side or the other, but because his study of the question had led him to take the affirmative or the negative side, as the case might be. It is evident that such a procedure would require, on the part of the pupils, research and thoughtful consideration of the question to be discussed. Moreover, such a procedure would obviate what has always seemed to me a vicious accompaniment of the usual debate, namely, the assignment of debaters to the affirmative or the negative side in advance of a serious study by them of the question to be debated. It is of value to cultivate the habit of approaching any question with an open mind and of studying it with a view to reaching conclusions (arguments) that seem valid to the debater, but this habit cannot be cultivated by the usual practice in school and college debates.

On the Monday morning following our public contests, I devoted a few minutes of the opening exercises to comments on the performances of the pupils. My purpose was to congratulate the victors and to make the whole school feel that they had shared in the success of the victors; to administer a bit of (cold) comfort to the other contestants by telling them that without them there could have been no public contest, that the effort which they had put forth was appreciated by the whole school, and more to the same effect.

We had the usual graduation exercises at which representatives of the graduating class delivered original orations and essays, the principal performers being a salutatorian and a valedictorian—the two pupils who had the second highest and the highest record, respectively, in scholarship for at least three years.

In every public exercise, the graduation exercises included, we all agreed that pupils must be so sure of themselves that "prompting" would not be necessary, and no prompting was ever allowed and, under such circumstances, was never needed. We also agreed that every school exercise must begin at the time stated. Laggards, if there were any, lost their opportunity to participate on that day or that occasion, and we had no laggards after the first public exercise. I may say, incidentally, that, very soon after I took charge of the school, pupils who failed to prepare their lessons on any day had to

do the work before they left school on that day unless they had a valid excuse for their failure to meet their obvious responsibility. After a few weeks very few pupils had to be disciplined in that way, and after the first year the pupils gave us little trouble by being "unprepared."

Another disciplinary procedure which I found to work well was this: If a pupil was sent to me by one of the teachers because of some misdemeanor (the principal himself rarely has difficulties with pupils in his school), the culprit, when he appeared in my office, usually announced himself by saying, "Miss (or Mr.) X sent me to you."

Then I: "Why?"

"I don't know, sir."

"Very well, sit down, perhaps you will be able to tell me by and by."

In the course of ten or fifteen minutes, the pupil was asked if he could then tell why he had been sent to me. If he told what had happened but failed to bring out his misbehavior, it was fairly easy by questions to cause the pupil to incriminate himself. If the pupil was not ready to talk after the brief time allowed him for reflection, he was told to get his books and return to my office to study; to go to his classes as they occurred but to return to my office after each recitation. At the noon intermission, if he was still unwilling to talk, he was not allowed to mingle with the other pupils but remained in my office. After the school reassembled, he was allowed a recess by himself. Usually an hour or less in my office was enough to cause the pupil to give his account of the difficulty with the teacher concerned. Then I pursued my policy of asking questions until the whole matter was clearly before us and the pupil's guilt made plain. (My attitude throughout was friendly but serious.) That much accomplished, the pupil was ready, sometimes with a little prompting, to take the proper steps to re-establish himself with his teacher, and the matter was settled.

The principle underlying this procedure was, of course, to put the responsibility for clearing himself on the culprit. If my interview with the pupil had begun by accusing him of wrongdoing and had proceeded to the administering of some appropriate punishment, he would have assumed, in most cases, the attitude of injured inno-

cence. Moreover, causing the pupil to incriminate himself was a decidedly unpleasant experience for him and not likely to be forgotten. The total result of this procedure was to lessen the number of cases of misbehavior in the classrooms, and during the last three years of my principalship very few such cases occurred.

All cases of discipline were not so readily disposed of. If a culprit proved to be recalcitrant, I invariably sought an interview with his parents, and in only one instance did I fail to secure from the parents the co-operation necessary to settle the affair with satisfaction to all concerned.

Teachers themselves are sometimes responsible for a pupil's misconduct, and they then cause the principal much trouble. When, from a pupil's account of his difficulty with a teacher, it seemed likely that the teacher was as much to blame as the pupil, or perhaps more, I at once sought an interview with the teacher. If I found the teacher had erred, I did what I could to clear up the matter with the teacher and usually succeeded in getting him to forget all about the difficulty, it being understood that I would let the pupil off with a warning to be more careful in the future. Sometimes this way of adjusting the matter left scars which both pupil and teacher carried permanently, but that could not be helped.

A teacher occasionally failed to meet a pupil halfway when he had left me with the intention of re-establishing himself with the teacher. That situation, when it developed, was the most trying of all. Such happenings, however, are a part of the principal's occasional experiences, and he must deal with them as best he can. Of course, the principal then has to labor with the teacher and may accomplish much or little.

I have dwelt on this matter of school discipline at considerable length because it may be suggestive to some young principal who may chance to read these lines. Of course, much more is involved in school discipline than I have touched upon, but the secret of good discipline, as I see it, is a kindly but firm attitude on the part of principal and teachers that the pupils sooner or later recognize as characteristic of the treatment to which they are subjected, together with never-ending care to let the pupils feel that, in co-operating with the teachers, they together inevitably make the school a place

of serious pleasure and profit. When once the pupils feel that, serious cases of discipline will be a thing of the past. It is not difficult to awaken the loyalty of young people in *their* school. Of course, here as elsewhere, actions (on the part of principal and teachers) speak louder than words.

I greatly enjoyed my experience as principal of Denver High School, District No. 2, especially after the first year. As I have said, the school grew rapidly in numbers. A genuine school spirit became manifest, and all went well, seemingly. I had almost forgotten that we had a superintendent until, some time during my third year, I heard that the superintendent of District No. 2 was not satisfied with our high school. Soon I discovered that his dissatisfaction centered in the principal. One day about that time he came to me and said that he must call my attention to the fact that my presence at the desk in the assembly room when the teachers were teaching classes there embarrassed the teachers so that they could not do themselves justice and asked me to leave the assembly room at such times. (We had to use the assembly room for classes since we had only two recitation rooms besides the laboratory in the basement.) As I had not noticed that my presence embarrassed the teachers when I worked at my desk (the only large desk we had) in the assembly room, I told him I thought he was mistaken but that, if it really was so, I would see what I could do about it. When I conferred with the teachers, it transpired that the superintendent *was* mistaken, and I accordingly continued to stay at my desk, as before.

Then came the time for our annual library entertainment. For this and all public exercises the large lower hall in the Franklin School had to be converted into an auditorium. Electric lights had to be installed, a stage erected, and seats provided. The superintendent had authorized me to make these arrangements on former occasions, but, to avoid any possible appearance of undue independence, I sought him in his office and said, "I am preparing to arrange for our library entertainment. Shall I go ahead?" He said, "No, I will make the arrangements myself." I was young and jealous of my function as principal of the high school; so I said something to the effect that he could have my resignation if he wanted it but that he could not attend to my business as long as I was principal of the

school. The superintendent said nothing further, and I left his office to go immediately to the chairman of the high-school committee of the school board, Mr. Shepard. Mr. Shepard said he would take the matter up with the superintendent, and I left him, not knowing what action he would take. The next morning the superintendent came to me and said, "The board told me to instruct you to go ahead with the arrangements, except that I am to have the lights installed!"

The superintendent's conception of his own functions was well shown by the term examinations which he himself conducted throughout the elementary schools of his district. He not only prepared the examination questions but actually read and marked all the pupils' answers himself; so that the last three weeks or so of each term were required for those examinations, to the exclusion of all other business that might properly come to the superintendent's office. So far as I remember, the superintendent never took the initiative in devising or carrying out any educational policy for his district or otherwise manifested any educational leadership. Naturally, such a superintendent could not hold his office as the city outgrew its primitive condition. Although he was not a good superintendent, he was a good cryptogamic botanist and might have been successful as a teacher of botany in some school or college.

During September of the fifth year of my principalship, after the school year had begun, I was invited by the trustees of the State Normal School in Greeley, the first state normal school in Colorado, to become professor of "pedagogy" at that school. The school was to open its doors early in October. I hesitated for some time about accepting the new position. If the trustees had offered me the principalship, I would have accepted their offer without hesitation, but they had already engaged a principal. After reflection, I did accept the professorship because it seemed to be in harmony with my dominant interest in the problems of education as such. I secured a release from my post in Denver to take effect on October 1, 1890, and was in Greeley on that date.

GROWTH OF THE UNITS OF SECONDARY EDUCATION IN BRITISH COLUMBIA

HUGH M. MORRISON
University of Chicago

The growth of a public system of education in any region is dependent in varying degrees on a multiplicity of factors. In the final analysis, most of these factors are rooted in the social, economic, and geographic conditions of the administrative unit. For example, the traditions of the people as to the amount of free education that the state should provide, the wealth and natural resources of the area, and the distribution of population are all weighty determinants of the public educational system of any country.

In respect to the public-school system of British Columbia, these considerations are of special significance. This most western province of the Dominion of Canada is a mountainous region in the Cordilleras, which, greater in area by almost 90,000 square miles than the state of Texas, yet has a population of only 695,000. Almost half of this population is concentrated in a small area in the lower mainland in and around the city of Vancouver and on Vancouver Island. Thus, this rather centralized system of education is faced with the problem of meeting the needs of both highly condensed and sparsely populated regions.[1] As might be expected, an examination of the public-school system of British Columbia reveals a multiple organization evolving from practical local conditions yet guided by a centralized power into channels approved by the best educational thought. In the field of secondary education this province not only has fully equipped, modern junior and senior high schools based on the 6-3-3 plan but also makes provision for the sparsely populated rural districts through secondary-school instruc-

[1] In Canada public education is under the control of the separate provinces, nine in all. See: W. F. Dyde, *Public Secondary Education in Canada*, pp. 7–8. Teachers College Contributions to Education, No. 345. New York: Teachers College, Columbia University, 1929.

tion in continuation schools and through correspondence courses administered by the central Department of Education. Indeed, British Columbia "was the pioneer on this continent in correspondence instruction."[1] Many of the senior high schools in the larger centers provide advanced work equivalent to the first year of college.

This multiple organization was not accomplished overnight. It is the result of a process of growth, of the adjustment of a young educational system to the needs of an expanding economy. In order that a clear picture may be given of how this system of secondary education is being molded in its own economic and geographic grooves and is being polished in harmony with scientific educational findings, it will be necessary to trace briefly the evolution of its various units. Finally, it will be seen how these have been tied together by a curricular process for the purposes of instruction.

THE TRADITIONAL HIGH SCHOOL

The term "traditional high school" may be taken to signify legally organized high schools, excluding junior high schools, which provide instruction at the secondary-school level, from and including Grade IX upwards. Until about the first decade of the present century this school was the sole type in the field of secondary education in British Columbia. It came into existence as a direct result of the needs of the pioneer elementary-school system.

The early system was indeed of a pioneer nature. When in 1871 the Crown Colony of British Columbia entered the Canadian federation, the population of the new province was only about ten thousand white settlers. The provincial legislators, however, recognized immediately that education was a matter of public concern and in 1872 passed the first Provincial Public School Act, which provided for the establishment of local school districts with local school boards. In 1873 there were but 25 districts, the majority of which were rural districts, employing 30 teachers, who were teaching 1,028 pupils.[2] The very pioneer nature of these districts precluded their

[1] H. B. King, *School Finance in British Columbia*, p. 145. Victoria, British Columbia: Charles F. Banfield, King's Printer, 1935.

[2] J. H. Putman and G. M. Weir, *Survey of the School System*, pp. 15–16. Victoria, British Columbia: Charles F. Banfield, King's Printer, 1925. Before confederation the colony of Vancouver Island had made provision for a system of free schools in 1865.

assuming the expense, and hence much of the power, in administering the schools. Thus, administration remained with the central governmental authority. In the early years the superintendent of education himself was forced to inspect the schools. For example, in 1874 John Jessop, superintendent of education, reported that, "for the purpose of school inspection and visiting sections of the interior where new districts were contemplated," he had "traveled 1,200 miles by steamer, 425 by canoe, 540 by stage, 1,255 on horseback, and 184 on foot making a total of more than 3,600 miles during the year."[1] Indeed, for many years an inspector never crossed the thresholds of the schools in the more remote districts. There was also a constant lack of properly qualified teachers, and it was as a direct result of this deficiency that the secondary-school system came into being.

In 1874 Jessop, the superintendent of education, drew attention to the fact that because of the lack of qualified teachers he had been forced to ignore section 33 of the Public School Act, which demanded first-, second-, or third-class teaching certificates of all prospective teachers. Had he complied with the law, he would have been compelled to close a third of the schools because of lack of teachers. There was, he reported, a deficiency of twelve or fourteen teachers annually. Hence he recommended that high schools be established at Victoria and New Westminster, where teachers "could be trained." In addition he advised free tuition and "perhaps a little pecuniary aid."[2] Thus, it is clear that the British Columbia high school grew out of the teaching exigencies of the moment and that these needs supplied the impetus to a practically free system of secondary education.

The first high school was opened in Victoria in the summer of 1876. For the school year it reported an enrolment of sixty, with an average daily attendance of forty-nine. The first teacher was a minister of the gospel, Rev. A. B. Nicholson, who resigned after

[1] *Third Annual Report on the Public Schools of the Province of British Columbia, 1874*, p. 13.

[2] *Ibid.*, pp. 9, 10, 12. The Department of Education at that time conducted factual examinations for the certification of teachers, or it issued certificates upon evidence of knowledge.

less than a month of service because of disagreement over the secular policy of the school system. At the risk of irrelevancy, it is interesting to show here that the program of studies of this pioneer high school was a true mirror of the curricular practices of the time. Under the English section, there were ancient and modern geography, grammar, rhetoric, and composition, and mythology. The natural sciences included botany, physiology, natural philosophy (physics), astronomy, and chemistry. The types of mathematics offered were arithmetic, algebra, mensuration, Euclid, and bookkeeping. Of course, in the classics there were Latin and Greek, and French appeared as the only modern language. Vocal music and map-drawing were listed for attention.[1]

It was not until eight years later that a second high school was opened at New Westminster. Soon after the completion of the first Canadian transcontinental railway to its western terminus in Vancouver, that city established its first high school—in January, 1890, to be exact. With the opening of the new century—"Canada's century" as the Canadian prime minister, Sir Wilfrid Laurier, termed it—the British Columbia school system started on a steady and a fairly rapid expansion. By 1907 there were fifteen high schools in the province.

Not only was the enrolment of the public-school system increasing in British Columbia, but after 1900, in common with other sections of the continent, the percentage that the secondary-school population was of the total public-school enrolment started its upward climb. In 1900 the percentage was 2.57; in 1935, including all types of secondary-school organization, it stood at 23.03; and for the traditional high school, as defined in this article, it was 17.03.[2] Table I indicates for five-year periods the rise of the percentage that the traditional high school enrolment was of the total public-school enrolment. In 1935 there were 19,969 pupils enrolled in these high

[1] *Sixth Annual Report on the Public Schools of the Province of British Columbia, 1876–77*, p. 13.

[2] These figures and the following statistical tabulation are compiled from the *Annual Reports* and from H. B. King, *op. cit.*, pp. 192–97. The 23.03 per cent for 1935 does not include 1,000 high-school correspondence students nor the very few pupils who might be taking high-school subjects under the guidance of a rural elementary teacher, but it includes 647 pupils doing work in senior high schools equivalent to first-year college (senior matriculation), which amounts to only an infinitesimal fraction of 1 per cent.

schools—in establishments ranging from rural high schools with enrolments as low as eleven to large urban composite, academic, commercial, and technical high schools with enrolments between five hundred and fifteen hundred pupils.

PROVISIONS FOR REMOTE RURAL REGIONS

Even the enrolment range of eleven to fifteen hundred does not meet the needs of all rural districts. Two other types of organization

TABLE I

ENROLMENT IN BRITISH COLUMBIA SCHOOLS AT FIVE-YEAR PERIODS SINCE 1879–80 AND PERCENTAGE THAT ENROLMENT OF TRADITIONAL HIGH SCHOOLS (GRADE IX AND ABOVE, EXCLUDING JUNIOR HIGH SCHOOLS) IS OF TOTAL PUBLIC-SCHOOL ENROLMENT

School Year	Total Public-School Enrolment	High-School Enrolment	Per Cent
1879–80.....	2,462	82	3.33
1884–85.....	4,027	134	3.33
1889–90.....	8,042	244	3.03
1894–95.....	13,482	515	3.82
1899–1900.....	21,531	553	2.57
1904–5.....	27,354	1,090	3.98
1909–10.....	39,670	2,041	5.14
1914–15.....	64,264	3,912	6.09
1919–20.....	79,243	6,636	8.37
1924–25.....	97,954	10,597	10.82
1929–30.....	111,017	14,675	13.22
1934–35.....	117,233	19,969	17.03

carry secondary-school instruction to the most isolated outposts on the pioneer fringe, namely, superior schools and high-school correspondence classes.

In the case of superior schools the practice is to extend the upper division of the eight-grade elementary school to provide secondary-school instruction in Grades IX and X. This upper division is not permitted to include elementary-school work lower than Grade VIII and must have at least eight pupils enrolled in high-school instruction. When the number of high-school pupils has risen to fifteen, the division may then become a legal one-room high school.[1] The

[1] *Manual of the School Law and School Regulations of the Province of British Columbia* (1932), sec. 2, p. 7; sec. 12, *g*, *f*, p. 12.

superior school, then, serves not only for isolated regions but also for growing communities which are in a transitory state just before they have developed sufficiently to be able to do their share in supporting a regularly organized high school. For over twenty years superior schools have served this purpose. In 1935 the secondary-school enrolment of these schools was only 565 pupils, and, of these, 133 were actually in Grades XI and XII[1]—a sign of evolution toward high-school status.

In order to serve the real pioneer outposts, where there are no schools whatever or where there are only small one-room rural schools, high-school correspondence classes are administered by the Department of Education. In addition, these courses serve sometimes in enriching the programs of superior schools and rural high schools. They also supply first-year college work to pupils in remote regions who are unable to get to the university or to some large high school offering such work. In 1935 a thousand pupils were enrolled in these high-school correspondence classes.

THE JUNIOR HIGH SCHOOL

Another unit of the secondary-school system is the junior high school. Largely at the instance of the British Columbia Teachers' Federation, a commission of two prominent Canadian educators, J. H. Putman and G. M. Weir, was created to investigate and report on the school system of the province. The commissioners were instructed to "hew to the line," and truly they did. Their report entitled *Survey of the School System*, is undoubtedly one of the greatest Canadian educational documents. It has served as a chart in bringing the school system of British Columbia into line with the best educational practices. The commissioners laid their fingers on one of the sore spots of Canadian public education, which at that time was particularly noticeable in British Columbia, namely, the abrupt break or lack of proper articulation between the elementary school and the high school.[2] As a result British Columbia led the way in Canada in the establishment of junior high schools. In the

[1] *Sixty-fourth Annual Report of the Public Schools of the Province of British Columbia, 1934–1935*, p. 109.

[2] J. H. Putman and G. M. Weir, *op. cit.*, pp. 71–110. See also: W. F. Dyde, *op. cit.* p. 95.

Annual Report for 1926–27 these types of secondary schools were first listed. By 1935 there were 10 junior high schools with a total enrolment of 6,462 pupils,[1] or 23.94 per cent of the total secondary-school population excluding high-school correspondence classes.

THE CURRICULAR AMALGAM

So far in this article the purpose has been to show in a general way the growth and the functions of four units of the secondary-school system. As time wore on, curricular problems were attacked, but until 1934 these attacks resulted in only spasmodic revisions of parts of the curriculum. They did, however, bring about a greater plasticity, as advocated by the survey commission, so that at present there is a combination type of organization, with restrictions in actual practice incumbent on the smaller rural districts. Nevertheless, despite the progress achieved in the institution of junior high schools, many of the high schools were still organized on the traditional four-year system and many of the elementary schools were still operating with the traditional eight grades, largely because of local economic circumstances. Therefore, it could only be said that the public-school system was partially organized on the 6-3-3 plan. Economic and geographic conditions appeared to be retarding the fulfilment of the plan, but through a complete revision of the public-school curriculum the plan was applied to the entire system in the year 1936–37. The new junior high school program of studies, which was put into operation in September, 1936, applies to all Grades VII, VIII, and IX, no matter in what type of school. There is also a new elementary-school program for Grades I–VI.[2] In September, 1937, it is expected that the new program for senior high schools will be put into operation. Thus, through curricular revision a real attempt is being made to achieve a better and a more scientific articulation of the various units of the public-school system.

GERMS OF JUNIOR COLLEGES

A treatment of the units of the British Columbia secondary-school system would not be complete without some reference to the

[1] *Sixty-fourth Annual Report of the Schools of British Columbia, 1934–1935*, p. 9.

[2] T. A. Brough, "Revising the Curriculum in British Columbia," *School*, XXV (October and November, 1936), 101–5, 191–94.

facilities which have been established for providing higher education in the remote regions and for bridging the break between the secondary school and the university. The first problem—providing some higher education in the districts remote from the provincial university in Vancouver—is a difficulty peculiar to an expanding economy and, within a wider span of time, may be compared to the problem met by the superior schools. The second problem—bridging the gap between the high school and the university—is, as anywhere else, largely curricular.

These two problems are partially met by permitting high schools to extend their instruction to include work equivalent to the first college year of liberal arts, which is called in British Columbia "senior matriculation." Even in Vancouver, where the University of British Columbia is located, senior-matriculation work is carried on in a fairly large percentage of the high schools—an indication not only of economic circumstances but also of the fear of the sudden break into the university with its much shorter Freshman year. In 1935, 647 senior-matriculation students were enrolled in 25 of the 97 legally organized high schools in the province, not including junior high schools. Although these senior-matriculation grades were found in a relatively high proportion of the high schools, their enrolment amounted to only 3.24 per cent of the enrolment of all the legally organized high schools, not including junior high schools. This low percentage in such a wide range of high schools is indicative of the efforts being made by the secondary schools to meet the problems raised by a growing society and by poor articulation with the university. It is not difficult to realize that senior-matriculation work has in it the potentialities of work equivalent to American junior-college instruction. At present the work is carried on in a dim twilight zone. The coming of the dawn in many pioneer communities will take time.

In this connection it is interesting to note that the University of British Columbia evolved from the secondary-school system by a sort of junior-college growth. In 1906 the need for a higher educational institution was felt. The result was that two years of liberal arts and applied science were added to the Vancouver High School, and this addition was affiliated with McGill University and became

known as McGill College of British Columbia. Three years earlier, in 1903, one year of liberal arts, also in affiliation with McGill University, had been added to Victoria High School. Teachers in both high schools and a few professors who were added to the staff of McGill College carried on the college work. From McGill College there developed the present University of British Columbia. From the Victoria addition there grew the present Victoria College, which carries on two years of liberal arts in affiliation with the University of British Columbia.

CONCLUSION

The British Columbia high school came into being as a result of the urgent needs of the school system. Because the high school could not reach all the pioneer fringe, two more units of secondary education were developed, namely, the superior schools and the correspondence classes. In the twenties, in order that a better articulation between elementary and secondary schools might be achieved, a fourth unit, the junior high schools, came into existence. Finally, by means of curriculum revision the entire public-school system was put on the 6-3-3 plan. To provide some higher education for remote districts and to ease the sudden shift from high school into university, a fifth unit has arisen, senior matriculation. Thus, the British Columbia secondary-school system has developed five main units: (1) the senior high school, which is the major portion of the traditional concept of the high school; (2) the superior school; (3) high-school correspondence classes; (4) the junior high school; and (5) senior matriculation. These units were not set up by armchair philosophers; they came into existence in answer to social demands.

This account shows how a young developing secondary-school system, like many other systems, was shaped in accordance with scientific educational practice and with due regard to the social, economic, and geographic conditions involved. The source of a spring is a weighty factor in determining the nature of the spring. So it is with all educational systems. Nevertheless, the spring may be directed into channels created by man, and the educational system may be shaped through scientific methods. In this respect it may be stated that British Columbia has not been dormant.

A CUMULATIVE-RECORD SYSTEM BASED ON PERMANENT STANDARD SCORES FOR INTELLIGENCE QUOTIENT AND ACHIEVEMENT

ROYAL B. EMBREE, JR.
University High School, University of Minnesota

UNDERLYING PRINCIPLES

The maintenance of a cumulative-record system represents an essential phase of the guidance program, for information is one of the mainstays of guidance activity. However, the development and upkeep of such a system are beset with many difficulties. Among the most common pitfalls are the divergent tendencies toward oversimplification and undue complexity. Oversimplification, which usually follows an attempt to make the system compatible with restricted clerical service, frequently results in such sparsity of worth-while factual material that even the limited expenditures of time and effort are not justified. Undue complexity, arising from the laudable aim to achieve perfection, often results in a system which is understandable only to trained workers and which because of heavy overhead may never be maintained in accordance with original design.

The department in charge of pupil guidance at University High School, University of Minnesota, has studied for some time this problem of cumulative records. Various prepared forms were tried experimentally, one of which was used over a period of several years. However, the department ultimately decided to evolve its own record system.

Several general principles were followed in the preparation of this record: (1) The most satisfactory record system for any given situation is based on the specific needs of the school. (2) The record system should provide for necessary entries, but it should be sufficiently condensed to place it within the range of clerical service available to the department. (3) The system should involve the filing in

folders of all case material, including the record card, which should be removable. (4) The record card should include, in addition to space for the entry of personal data, a profile for the tabulation of standard-test results and progressive achievement and provision for the listing of school marks by subject-matter fields. (5) Progressive achievement should be tabulated on some basis of central tendency, such as the standard score for an average of all marks, rather than by individual subject marks. (6) The record card should be constructed in such a manner that the meaning of its data is understandable to pupils and teachers as well as to the professional guidance worker.

The record card adopted was designed to include only data of the most immediate value. Pupil questionnaires, which are administered annually and kept within the folder, supply supplementary material. It was decided to print the record on two sides of a stiff card rather than on the inside surfaces of the folder itself. The card is more readily available for work with pupils and teachers, and the use of the card simplifies the clerical service incidental to the periodic entry of personal data.

The achievement profile is based on permanent standard scores derived from teachers' letter marks. The use of standard scores supplies not only the central tendency of an individual pupil's marks but also his relative standing in terms of the group of which he is a member. This information, when entered on the profile, is a clear and persuasive tool for work with children. The use of permanent norms makes it unnecessary to calculate standard scores anew with each quarter's final marks, and the transposition of marks into their score values becomes a simple task. In the calculation of standard scores for use with the profile, the mean was arbitrarily placed at 50 and the standard deviation assigned a value of 10, scores being thus secured which lie for the most part between 25 and 75.

This article will be concerned only with the profile and the form for the cumulative tabulation of subject-matter marks, including, of course, a discussion of the standard-score norms on which the profile is based. It should be emphasized that this record card, in its exact present form, is not likely to be of use to institutions generally. The

philosophy under which the system was developed demands that it be built around the specific needs of University High School. However, the basic scheme should be applicable to many systems or institutions, and the forms may be readily re-worked to fit the needs of individual situations.

THE PROFILE

A facsimile of the profile in its tentative form is shown in Figure 1. It is based entirely on the standard-score system mentioned above.

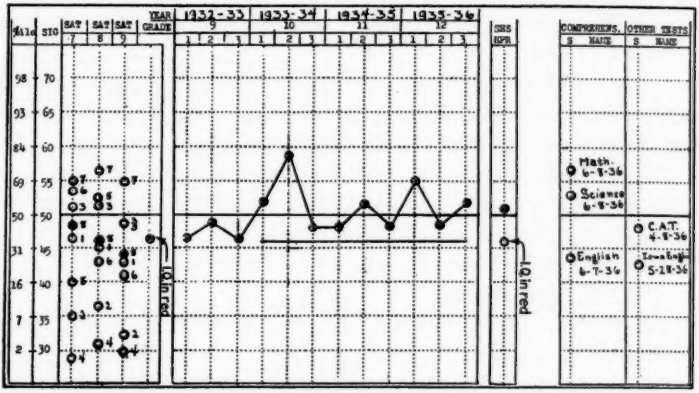

FIG. 1.—Reproduction of the mimeographed form used to show achievement on the University High School personal record card, as filled out for a representative case.

At the extreme left the percentile and the standard-score values are furnished for each horizontal line on the chart. Vertical lines are supplied for the tabulation of standard scores, based on annual calculations, for the subtests and the total of the New Stanford Achievement Test, which is given to pupils at the beginning of Grades VII, VIII, and IX. On the unmarked vertical line is entered in red ink the standard score for the intelligence quotient determined from permanent norms which will be described later.

Since University High School is administered on a quarterly basis, vertical lines are supplied for three quarters each in Grades IX–XII, inclusive, and for the total of all senior high school marks. Although the school is a six-year junior-senior institution, provision is not

made on the profile for Grades VII and VIII since the use of an integrated program at that level makes it impossible to secure marks comparable with those in other grades. The procedure followed is to determine the individual pupil's average for each quarter (or for all senior high school grades), transpose it into a standard score on the basis of prepared norms, and enter this value in its appropriate place on the chart.

The third division of the profile is designed to permit the tabulation in standard scores of the pupil's standing on the University High School's Senior comprehensive examinations and on other standardized tests which may be administered at various times.

The date of each school year is successively entered at the top of the chart, and all other entries are made by small circular rubber stamps. Stanford Achievement subtests and totals are posted in black, and each is numbered. The intelligence-quotient standard score is posted in red, while average standings are entered in black and connected progressively by lines which form the achievement profile. The scores on comprehensive examinations and other standard tests are posted by a rubber stamp, accompanied by their respective names and dates of administration.

THE CUMULATIVE-MARK FORM

A reproduction of the cumulative-mark form for Grades IX–XII appears in Figure 2. A form for Grades VII and VIII, similar in construction but much curtailed in extent, is used on the card but is not included here. This device was designed with two principal aims in view. One was to provide for the entry of all marks for a single quarter on the same horizontal line. The other was to make possible the grouping of marks by subject-matter fields.

The school year is entered at the extreme left, and marks are posted quarterly by rubber stamp or by hand in the column appropriate to each subject. Space is supplied at the right for the tabulation, by quarters, of credits, honor points, and the honor-point ratio, which is the average used at University High School. It is thus possible to follow the pupil's progress in every subject, while clerical workers can calculate readily and accurately the quarterly honor-point ratio necessary to the maintenance of the achievement profile.

The total senior high school ratio may be quickly secured by adding the credits and honor points for Grades X, XI, and XII.

ESTABLISHMENT OF PERMANENT STANDARD SCORES

Three sets of permanent standard scores were required, one for the intelligence quotient, one for ninth-grade achievement, and one for senior high school achievement. The use of separate norms for achievement became necessary when investigation gave evidence of a significant difference between the highly correlated measures of achievement of the same pupils in Grade IX and Grades X, XI,

YEAR			PEd	MUS	ENGLISH				MATH				SCI.				HISTORY				LANGUAGE							CR	PT	HPR
					3	4	5	6	3	4	5	6	G	B	C	P	D	M	U	S	FR	GER	LA	I.A	H A	ART				
1932		1	C	S	C				C				C													C		4	4	1.00
	9	2	D	S	C				B				C													C		4	5	1.25
1933		3	C	S	D				B				C													C		4	4	1.00
1933		1	D	S		C				B				G								B						4	6	1.50
	10	2	C	S		C				B				A								B						4	8	2.00
1934		3	B	S		C				B				C								C						4	5	1.25
1934		1	A	B			C				B				C							C						4	5	1.25
	11	2	C	C			C				C				C							A						4	6	1.50
1935		3	B	C			D				B				B							C						4	5	1.25
1935		1	B	B				C								B		B		B								4	7	1.75
	12	2	B	B				C								C		B		C								4	5	1.25
1936		3	B	B				C								C		B		B								4	6	1.50

FIG. 2.—Reproduction of the mimeographed form used for cumulating marks on the University High School personal record card, as filled out for a representative case.

and XII. As has already been mentioned, the mean is placed at 50, and the standard deviation is assigned a value of 10.

The permanent standard scores for the intelligence quotients were determined on the basis of 1,156 cases enrolled at University High School between September, 1929, and September, 1936. The intelligence quotient used was the median of five group tests which were equated in accordance with the technique described by W. S. Miller.[1] The mean for the total group was 117.52; the standard deviation, 12.22. The consistency of the intelligence quotient over this period is shown in Table I, which includes the annual variations from the grand mean and standard deviation. A table of standard scores for each intelligence-quotient point within the University High School range was prepared from these data for use with the record card.

[1] W. S. Miller, "The Variation and Significance of Intelligence Quotients Obtained from Group Tests," *Journal of Educational Psychology*, XV (September, 1924), 359–66.

Permanent standard scores for senior high school achievement were based on 339 cases from the graduating classes of 1932 through 1936, inclusive. Members of the class of 1932 began tenth-grade work in September, 1929. The measure of achievement used was the honor-point ratio for all courses in Grades X, XI, and XII, exclusive of those in music and physical education. In the determination of

TABLE I

ANNUAL MEANS AND STANDARD DEVIATIONS OF INTELLIGENCE QUOTIENT OVER A PERIOD OF EIGHT YEARS

Year	Mean Intelligence Quotient	Annual Variation from Grand Mean	Standard Deviation	Annual Variation from Grand Standard Deviation
1929–30	117.50	.02	11.27	.95
1930–31	116.61	.91	13.29	1.07
1931–32	118.33	.81	11.49	.73
1932–33	117.02	.50	13.31	1.09
1933–34	116.39	1.13	12.14	.08
1934–35	118.33	.81	12.41	.19
1935–36	117.25	.27	12.73	.51
1936–37	117.86	.34	12.18	.04
All years	117.52	4.79	12.22	4.66
Average	.....	.60	.....	.58
Average variation divided by standard deviation	.....	.05	.....	.05

this figure, the marks are assigned the following values: A = 3, B = 2, C = 1, D = 0, F = −1. The honor-point ratio is derived by dividing the number of credits taken into the number of honor points earned.

The mean honor-point ratio for this group of 339 individuals was 1.41; the standard deviation, .65. The consistency of these norms is demonstrated by Table II, which includes annual means and standard deviations and their respective variations from the grand mean and standard deviation. On the basis of total mean and standard deviation, standard scores were determined in the manner described above. Since the record calls for a quarterly computation of achievement, a conversion table was prepared to furnish the score value of

each honor-point ratio which may be secured on the basis of a single quarter's work.

Only pupils who had spent all three senior high school years at University High School were included among the cases used. The danger of selection is minimized by the facts that practically no pupil withdraws from the institution to discontinue schooling and

TABLE II

ANNUAL MEANS AND STANDARD DEVIATIONS OF SENIOR HIGH SCHOOL HONOR-POINT RATIO OVER A PERIOD OF YEARS

Year	Mean Honor-Point Ratio	Annual Variation from Grand Mean	Standard Deviation	Annual Variation from Grand Standard Deviation
1931–32	1.38	.03	.69	.04
1932–33	1.40	.01	.67	.02
1933–34	1.45	.04	.61	.04
1934–35	1.41	.00	.66	.01
1935–36	1.42	.01	.64	.01
All years	1.41	.09	.65	.12
Average	.....	.02	.....	.02
Average variation divided by standard deviation	.....	.03	.....	.03

that those who transfer to other secondary schools are known to be, as a group, of average ability and achievement.

Ninth-grade permanent standard scores for achievement were determined on the basis of 532 pupils who took and completed ninth-grade work between September, 1929, and June, 1936. The measure of achievement was the honor-point ratio, the derivation of which has already been described. The mean for this group was 1.30; the standard deviation, .68. Annual means and standard deviations and their variations from the grand mean and standard deviation are shown in Table III. A standard-score conversion table was again prepared for each honor-point ratio which may be determined for a single quarter's work.

USE AND POSSIBILITIES OF THE RECORD CARD

In actual practice it has been demonstrated that the record card can be maintained efficiently and accurately by relatively untrained clerical assistance. Names, dates, and other similar material are entered on the card from questionnaires and from the pupil's application form. Standard scores for the Stanford Achievement Test are posted, and the intelligence quotient is converted into its appro-

TABLE III

ANNUAL MEANS AND STANDARD DEVIATIONS OF NINTH-GRADE HONOR-POINT RATIO OVER A PERIOD OF YEARS

Year	Mean Honor-Point Ratio	Annual Variation from Grand Mean	Standard Deviation	Annual Variation from Grand Standard Deviation
1929–30	1.25	.05	.73	.05
1930–31	1.28	.02	.65	.03
1931–32	1.43	.13	.64	.04
1932–33	1.20	.10	.62	.06
1933–34	1.28	.02	.70	.02
1934–35	1.26	.04	.74	.06
1935–36	1.40	.10	.62	.06
All years	1.30	.46	.68	.32
Average	.....	.07	.....	.05
Average variation divided by standard deviation	.....	.10	.....	.07

priate permanent standard score and entered on the profile. Quarterly marks for every course are taken from the official marking slips of teachers and entered in the various columns on the cumulative-mark form. The worker then calculates the number of credits, the number of points, and the honor-point ratio for the quarter, assisted by simple two-place tables which have been prepared for the purpose. This honor-point ratio is taken to the conversion table for Grade IX or senior high school, as the case may be, and transposed into an achievement standard score, which is entered on the profile under the proper quarter. This procedure is followed each

quarter, and the various entries, connected by lines, constitute a running record of achievement which is directly comparable to intelligence quotient and Stanford Achievement Test results.

Many further adaptations are possible. At University High School the regression equation of senior high school honor-point ratio on intelligence quotient and ninth-grade honor-point ratio has been computed for a group of 272 cases. With this formula the success of senior high school pupils who were present in Grade IX is predicted, converted into achievement standard score, and entered by a straight line on the profile. Comparison of predicted achievement with progressive actual achievement is enlightening to the guidance worker and may be effective for pupils.

Final judgment of the efficacy of such a device can be made only after a trial period covering several years. However, the record card has thus far proved simple to maintain and effective to use. The profile offers a clear-cut and mathematically grounded comparison of relative ability and relative achievement which is immediately comprehensible to pupils and teachers alike. Progressive achievement in terms of central tendency may be followed on one side of the card, while success in subject-matter fields, as measured by the marking system of the school, may be studied on the other side of the card. The mathematical ratio of ability to achievement may readily be computed, but the numerical figure is scarcely necessary when visual representation, vastly more vital to children, is so decisively made.

This record system, with some modification, is applicable to any institution using a graded marking system, whether by letters or percentages, or to any school using objective-test results as the measure of pupil progress. It seems likely that it would be effective at the college level as well as in the secondary school.

OCCUPATIONS OF GRADUATES OF A SMALL HIGH SCHOOL

EMIL M. BESCH
Fairfax, Minnesota

This report is a summary of a follow-up study of the graduates of a small country high school. The broad purpose of the study was to determine to what degree the graduates of this school were able to cope with social and economic problems of modern life. The high school of Parkers Prairie, Minnesota, was chosen for this study because of the author's connection with that school system for a number of years.

Parkers Prairie village had a population of 383 in 1910, a 48.8 per cent increase to 570 in 1920, and a 10.7 per cent increase to 631 for 1930.[1] The county in which this village is located had an increase in population of 10.4 per cent during the first decade and of 0.4 per cent for the second decade mentioned.[2] Most of the residents of the community are of Swedish, German, and Norwegian descent. The interests of the community are chiefly agricultural, and the products are small grains, potatoes, and dairy products. The commercial life of the village is largely devoted to the sale of groceries, general merchandise, hardware, oil, coal, feed, automobiles, and farm implements. The educational, religious, and social interests of the village center in the public school, three churches, an active study club, and various lodges.

The method used in collecting data was to secure from the permanent record cards of the school the names of the 250 graduates of the classes of 1919 through 1934. The post-school addresses of all except four men and two women graduates were found. Two women but none of the men were deceased. A two-page questionnaire was sent to the 244 graduates who had been located, and 192 graduates, or 79 per cent of the total, replied.

[1] *Fifteenth Census of the United States: 1930*, Vol. I, "Population," p. 562.

[2] *Ibid.*, p. 546.

The occupations of the graduates in 1935 are shown in Tables I and II. The women graduates are classified into two divisions, married and single. The last occupations before marriage are given for the married women, while the occupations of the single women at the time of filling out the questionnaire are those shown in the table.

In 1935 the single women were engaged in a total of twelve occupations. The teaching profession attracted more than any other

TABLE I

OCCUPATIONS IN 1935 OF 68 SINGLE WOMEN AND LAST OCCUPATIONS BEFORE MARRYING OF 44 MARRIED WOMEN WHO WERE GRADUATED FROM HIGH SCHOOL FROM 1919 TO 1934

Occupation	Single Women	Married Women	Total
Elementary-school teacher (rural school)	13	11	24
Domestic	9	9	18
Elementary-school teacher (village)	9	4	13
Work at home (farm)	7	.....	7
Clerk in store	3	3	6
Student	6	.....	6
Trained nurse	5	1	6
High-school teacher	3	2	5
Bookkeeper	1	2	3
Waitress	.....	3	3
Dental assistant	1	.....	1
Nursemaid	1	.....	1
Orchestra member	1	.....	1
Secretary	.....	1	1
Social-service worker	1	.....	1
Stenographer	1	.....	1
Tearoom manager	.....	1	1
Telegraph clerk	1	.....	1
Unemployed	6	7	13
Total	68	44	112

occupation, 37 per cent of the single women and 39 per cent of the married women being found in the three classifications "Elementary-school teacher (rural school)," "Elementary-school teacher (village)," and "High-school teacher."

The men were engaged in twenty-three occupations in 1935. Ten of the male graduates were working as day laborers and seven as clerks in stores. Farmers and farm work at home combined included twelve cases, and most of those classed as laborers were also working on farms. Four men were clergymen, and seven were engaged in some form of educational work. Only two were unemployed.

Beyond the mere numbers of graduates engaged in specific occupations, interest lies in the comparison between the proportion of graduates engaged in these occupations and the proportion of persons in the United States engaged in the same occupations. For this comparison the Minnesota Occupational Scale[1] was selected. This scale uses as a base the proportions of persons employed in each occupation as reported in the United States Census of 1930. The

TABLE II

OCCUPATIONS IN 1935 OF 80 MEN WHO WERE GRADUATED FROM HIGH SCHOOL FROM 1919 TO 1934

Occupation	Number of Men	Occupation	Number of Men
Student	14	Salesman	2
Day laborer	10	Superintendent of schools	2
Farm work at home	8	Auditor	1
Clerk	7	Blacksmith's helper	1
Clergyman	4	Department-store floor manager	1
Farmer	4	Electrician	1
High-school teacher	3	Forester	1
Skilled laborer	3	Oil-station helper	1
Bank teller	2	Oil-truck driver	1
Bookkeeper	2	U.S. Army	1
Elementary-school teacher	2	U.S. Navy	1
Engineer	2	Unemployed	2
Orchestra member	2		
Printer	2	Total	80

occupations are classed in the seven categories indicated in Table III. Since the scale was derived from occupations of males, no comparison was made of the women graduates. Table III is an attempt to classify the male graduates of this study on the basis of the scale. The table extends the scale slightly to fit this group by adding two extra classes or divisions to provide for graduates who were students or were unemployed at the time of the study. The fact that a man is engaged in an occupation of a certain class does not necessarily mean that he is a success in that field. The mere fact that he is holding a position of that class is, however, some indication of his ability. Table III shows that these high-school graduates obtained positions in the higher occupational levels as compared with the country at

[1] Florence L. Goodenough and John E. Anderson, *Experimental Child Study*, pp. 234–38, 501–12. New York: Century Co., 1931.

large. It will be observed that 7.5 per cent of the graduates found occupations in Class I, which includes doctors, dentists, lawyers, clergymen, etc., as compared to 2.6 per cent of the general population so employed in 1930. The percentage of male graduates engaged in Class II is also higher than the corresponding percentage for the census group. As the percentages of each group to be found

TABLE III

OCCUPATIONS OF 80 MALE GRADUATES AND OF THEIR FATHERS COMPARED WITH PERCENTAGES OF MEN SIMILARLY OCCUPIED IN 1930 IN THE COUNTRY AT LARGE

CLASS	PERCENTAGE IN 1930 CENSUS	MALE GRADUATES		FATHERS	
		Number	Per Cent	Number	Per Cent
I. (Professional)	2.6	6	7.5	1	1.3
II. (Semi-professional and managerial)	7.2	10	12.5	7	8.7
III. (Clerical, skilled trades, retail businesses)	13.8	8	10.0	16	20.0
IV. (Farmers)	15.5	4	5.0	32	40.0
V. (Semi-skilled trades)	23.7	16	20.0	19	23.7
VI. (Slightly skilled trades)	14.5	10	12.5	.....	.....
VII. (Unskilled laborers)	22.7	10	12.5	5	6.3
Students	.....	14	17.5	.....	.....
Unemployed	.....	2	2.5	.....	.....
Total	100.0	80	100.0	80	100.0

in Classes III through VII are examined, it is noted that in each case the graduates' representation in those occupations which require less educational preparation is smaller than that of the country at large. In other words, these graduates of a small rural high school tend to gravitate to the higher occupational levels.

Table III has imperfections because of the fact that the graduates who were continuing in further education and who were unemployed are included. If these two groups were omitted, the general effect would be to increase the percentages of graduates in Classes I and II to 9.4 and 15.6 per cent, respectively, and to increase the percentages in Classes III through VII accordingly. The general conclusion would, however, still hold true.

The courses being pursued by those graduates who were continu-

ing their education were investigated. It was found that they were preparing themselves for the occupations classified in the upper three categories of the scale. Two of the graduates who were classed as students had formerly held positions of the type classified in Class II in the Minnesota Scale, and they were preparing themselves for positions of the type of Class I. It is of interest to note that only 2.5 per cent of these male graduates were unable to find employment of some kind, somewhat less than the 7 per cent of unemployed found by Cloyd[1] in a study of the men graduated from three Missouri high schools in the period 1922–31.

A comparison of the occupations of the eighty male graduates and those of their fathers is also shown in Table III. Larger proportions of the sons than of the fathers are found in occupations of the first two categories of the scale. In the occupations of Classes III and IV this condition is reversed, but in occupations of Classes VI and VII the proportions of sons again exceed the percentages of the fathers. Most of the sons working at occupations classified in these last two groups were recent graduates from high school who were working either on their home farms or on the farms of neighbors. These graduates were looking forward to the time when they could become farmers and were attempting to accumulate some funds and obtain greater experience and skill before striking out for themselves. The road to independent operation of a farm is no doubt more difficult now than in an earlier period. The inferences to be drawn from this comparison are not clear. There seemed to be some tendency for larger proportions of the graduates of this school to enter professional and managerial occupations than there were fathers so employed. In addition, a considerable proportion of the sons classified as students were preparing for professional occupations. The evidence seems to indicate that a large proportion of the sons tend to go into occupations of a higher class than the fathers. Many of those working at occupations of a lower order than those of their fathers were using these occupations as a means to lift themselves at some future time to an occupational level at least equal to that of their fathers.

[1] Nina M. Cloyd, "A Follow-up of Graduates from Three Missouri High Schools," *High School Teacher*, X (February, 1934), 59–60.

THE HIGH-SCHOOL PRINCIPAL LOOKS AT HIMSELF AS EDUCATIONAL LEADER

HARLAN C. KOCH
University of Michigan

In a former issue of the *School Review*[1] the writer discussed the estimates of the high-school principal's contribution to secondary education which were made by 104 superintendents of city schools. The present article describes how the principal himself sizes up the situation.

COMPARISON OF JUDGMENTS OF SUPERINTENDENTS AND PRINCIPALS

The 306 judgments of 172 principals are distributed in Table I, together with those previously submitted by the superintendents. There is no deviation in the ranks of the respective topics. On this basis principals and superintendents are in agreement. Thus, both say, in the following order, that the principal has contributed to the high-school curriculum, to the general leadership of the high school, to the efficiency of instruction, and to high-school administration. The topic "Little, if any, contribution" stands last in both categories.

Within the respective ranks, however, numerical differences occur. For instance, a larger percentage of principals than of superintendents believe that the principal's chief contribution has been made to the evolution of the curriculum. The same may be said for the general leadership of the high school and for efficiency of instruction. The situation is reversed, however, in the case of high-school administration, although the difference in the percentages for this topic is small. Since there is internal evidence of a spiritual quality in the first three topics, may it be concluded that principals attribute a quality to their leadership which the superintendents do

[1] Harlan C. Koch, "The Superintendent Judges the Principal's Contribution to Secondary Education," *School Review*, XLIV (October, 1936), 590–96.

not find so apparent? Do the principals think of themselves, more often than the superintendents so regard them, as real educational leaders rather than as managers of school plants? If so, it speaks well for the principals' pride in the office that they occupy. Neither do they consider that they lack leadership so often as do the superintendents. Thus, only 5.9 per cent of the 306 commitments of the

TABLE I

DISTRIBUTION OF 306 OPINIONS SUBMITTED BY 172 HIGH-SCHOOL PRINCIPALS AND 172 OPINIONS SUBMITTED BY 104 SUPERINTENDENTS CONCERNING PRINCIPAL'S CONTRIBUTION TO SECONDARY EDUCATION

CONTRIBUTION	FREQUENCY OF MENTION BY PRINCIPALS		FREQUENCY OF MENTION BY SUPERINTENDENTS	
	Number	Per Cent	Number	Per Cent
To the high-school curriculum	93	30.4	47	27.3
To the general leadership of the high school	76	24.8	34	19.8
To the efficiency of instruction	69	22.5	30	17.4
To high-school administration	44	14.4	29	16.9
Little, if any, contribution	18	5.9	18	10.5
Miscellaneous	6	2.0	14	8.1
Total	306	100.0	172	100.0

principals are included under the topic "Little, if any, contribution," whereas 10.5 per cent of the 172 judgments of the superintendents occur there.

THE NEGATIVE SIDE

When principals speak of lack of leadership, they have many interesting things to say. In cities with fewer than a hundred thousand inhabitants, for instance, the observation frequently appears that the principal "has his eye on a superintendency." Such expressions as "means to an end," "looking for advancement to the superintendency," "just trying to get the superintendent's job," and "training for the small-town superintendency" are typical here. There are other principals who feel that too frequently the superintendent fails to delegate important responsibilities to the principal. Under an aggressive superintendent, they say, this failure reduces the principal to the status of an important clerk. It is also believed

that the principal frequently fails through faulty personality and lack of effort. In such cases, it is asserted, the superintendents have done a poor job of selecting their principals. One principal said that such progress as has been made may be attributed to "discovery through necessity . . . . a matter of hindsight rather than foresight." Finally, a high-school executive whose school is in a suburban region with a population of sixty-seven thousand contrasts the accomplishments of secondary-school and elementary-school principals to the evident advantage of the latter. He attributes the situation to relatively sharp differences in training.

In large cities the principalship is projected on a different background. Here the principal enjoys larger autonomy than in the smaller communities. He is much more nearly a king in his own realm. In reading the original returns in this study, one gains the impression that there is less restiveness in the larger principalships than in the smaller positions. In the larger cities, for instance, no principal has mentioned the desire for a superintendency as a possible obstruction to accomplishment. Stability is therefore apparent in the larger principalships which may not be assumed for the smaller positions. This fact lends significance to the self-criticism voiced by the high-school executives in the larger places.

THE POSITIVE SIDE

The high-school curriculum.—By no means is unanimity evident among the responding principals concerning their contribution to curriculum reconstruction. Only about a third of their replies (30.4 per cent) are related to this topic. It may be that this figure reflects the proportion of principals who have been active in this field. Yet, since these ninety-three commitments are widely distributed geographically and have come from cities which range in size from thirty thousand inhabitants up to and including New York, it is clear that the curriculum is commanding widespread attention. However, this classification does not tell the story clearly because there is unavoidable overlapping among the first four topics of Table I. The modifications of the curriculum which are reflected in the ninety-three replies under this topic are identified in general with broadening and enriching activities. By and large, such observations as "the realiza-

tion of individual needs," "benefiting the great majority," "broadening and co-ordinating," "adjustment and guidance," "recognition of community demands," "encouraging curriculum experimentation and research," and "co-operating in the modification of college-entrance requirements" recur frequently. They indicate the character of the contributions catalogued by these high-school executives.

One of many interesting features revealed in the original returns is that specific references to restrictive college-entrance requirements tend to fade out as the cities increase in size—a finding which may be construed to mean that the larger communities have the advantage of numbers which makes it a relatively simple matter to work out differentiations, whereas this condition is not true in smaller localities. In passing, two aspects of the college-entrance problem touched on by the respondents may be mentioned. The one represents enrichment of subject matter through differentiation within the usual subject pattern, whereas the other touches on the principal's influence in securing changes in the pattern itself. Thus, one aspect may be thought of as internal, the other as external, modification. However, departure from the conventional academic array of offerings is implicit in all the opinions dealing with the curriculum.

General leadership.—In the statements that concern the principal's contribution to general leadership is discovered what is attributed to the principal as he views, from the eminence of the principalship, the institution over which he presides. Although the seventy-six opinions which are pertinent here differ in detail, they agree that the principal has contributed much because he is a general officer invested with the responsibility of his school as a whole. Although others assert (under the topic "Little, if any, contribution") that the principal is too frequently motivated by the policy of laissez faire and that he too largely attends to minor details to be constructive, those whose opinions concern the principal's contribution to the general leadership of the school feel that he is a unifying agent and that he influences other workers to contribute in their own way. Thus, right on the job, they say, he has gradually formulated a philosophy of secondary education. He has made the American high

school a distinct institution. He has been a shock absorber, protecting the secondary school from unwise measures which originate both above and below him. He has tested "the theories of college professors," we are told, adopting the practicable and discarding the rest. Furthermore, "valuable research is being stimulated in high school. No doubt some of this has been aimless and poorly done." The principal, nevertheless, is credited with studies of tardiness, causes of absence and failure, grouping, class size, counseling, curriculum construction, visual education, and the like "which have contributed largely to secondary education." Thus, within his school, it is held, he is the initiator and, through a co-operative staff, the executor charged with the orderly conduct of the training of thousands of secondary-school pupils. He has professionalized secondary education. One respondent sums up his estimate of the principal's leadership by saying, "A wise superintendent gets a good principal and leaves secondary education largely to him."

As a class, principals have been effective through their national and state organizations. This point of view is expressed more than once. Then, too, some principals are credited with having constructively publicized secondary education through their programs of community relations.

Efficiency of instruction.—Third in frequency of mention by both principals and superintendents, the principal's contribution to the improvement of instruction is expressed only in general terms. It would have been illuminating if specific mention had been made of ways in which the principal has improved the teaching-learning relation. The data, however, are silent on this point, although here and there a note of skepticism appears. Thus, one principal says that theoretically the principal is a supervisor of teaching but that in practice he seldom is. Another feels that it would be nice to say that the greatest contribution made by the principal is in the field of supervision, but he does not think that this statement is true. Still another holds that because of the rapid shifting of the educational scene it has been difficult for principals to realize the necessity of adapting instruction to these changes. Moreover, he contends, "working under crowded conditions with teachers trained under

classically-minded college professors, there has been an inertia that it is almost a physical impossibility to overcome."

According to the commitments here being discussed, the efficiency of instruction has been enhanced by the principal's effort to maintain praiseworthy educational standards. He has focused attention on the importance of improvement in methods of teaching and has accepted as his business the responsibility of providing the most favorable conditions in the classroom. Through his sympathetic and helpful co-operation, it is further asserted, he has assisted teachers to analyze and solve their problems. Thereby he has "stimulated good teaching, pulled some teachers out of the clouds, raised others out of the mire, and co-ordinated varied efforts and activities." In doing so, he has in some places antagonized teachers by any kind of supervision, one principal believes, whereas in other places he has stimulated teachers to greater effort and to more effective teaching. One commentator sums up by saying, "The chief contribution made by the secondary principal is the perpetuation of the Mark Hopkins relationship."

High-school administration.—Since the logic of the principal's office imposes on him manifold administrative duties, it is rather intriguing to find administration in fourth place as the principal surveys his constructive activities. Apparently this aspect of his work, essential as effective administration is, has been so standardized that it no longer exhibits the challenge which the curriculum, for instance, extends. Indeed, there is some evidence in the original data to support this conjecture. It is obvious, since 30.4 per cent of the 306 responses are devoted to the curriculum, 24.8 per cent to the general leadership of the high school, and 22.5 per cent to increasing the efficiency of instruction, that the managerial phases of the principal's work do not monopolize his thinking. It may be concluded therefore that the principal is aware of the dynamic obligations which secondary education must discharge in the light of the trends of the times and that he is attempting to exercise leadership in the reorganization of the curriculum to meet this challenge.

The consensus of those who have committed themselves on this topic may be interpreted to the effect that administrative procedures

are important only because, without effective administration, no degree of success can be achieved in the classroom. Therefore, the principal has attempted to refine these procedures.

CONCLUSION

There is relatively close agreement between superintendents and principals concerning the contribution which the latter have made to secondary education. Qualitatively, they are in accord; quantitatively, they reveal minor deviations. The fact that the principal, by and large, thinks somewhat more highly of his accomplishments than does the superintendent is a wholesome sign. Whatever else this attitude may indicate, through internal evidence it at least reveals a sensitiveness to educational need and a tendency to put first things first, which the present social and economic trends require.

SELECTED REFERENCES ON STATISTICS, THE THEORY OF TEST CONSTRUCTION, AND FACTOR ANALYSIS

FRANCES SWINEFORD AND KARL J. HOLZINGER
University of Chicago

The following bibliography has been selected from issues of educational and psychological journals from March, 1936, to February, 1937, inclusive. Some books published during this approximate period have also been included.

Owing to the growing literature in the field of factor analysis, it seems convenient to continue the plan adopted in last year's list of assigning such material to a separate category. Sharp distinctions do not exist between the fields covered in this list, but, as an assistance to the student with special interests in one or more of the fields, the references have been classified under the following categories: theory and use of statistical methods, problems of test construction, and factor analysis. No articles dealing primarily with the use of tests have been included because these items are distributed functionally in other lists in the cycle, such as those dealing with secondary-school instruction, guidance, etc.

THEORY AND USE OF STATISTICAL METHODS

358. ARNOLD, J. NORMAN, and DUNLAP, JACK W. "Nomographs concerning the Spearman-Brown Formula and Related Functions," *Journal of Educational Psychology*, XXVII (May, 1936), 371–74.

Nomographs are reproduced which enable "the test-maker to determine the number of comparable items that must be added to get a desired reliability and also to estimate the excess number of items that need be included in order to allow for an underestimate due to sampling errors."

359. BROOM, M. E. *Educational Statistics for Beginning Students*. Chicago: American Book Co., 1936. Pp. xviii+318.

An elementary presentation of the minimum essentials of statistics. In addition to the topics covered by most textbooks in statistics, a number of research reports have been included to illustrate the use and interpretation of the various statistical concepts.

360. CONRAD, HERBERT S., and MARTIN, GEORGE B. "The Index of Forecasting Efficiency, for the Case of a 'True' Criterion," *Journal of Experimental Education*, IV (March, 1936), 231–44.

A formula is given for estimating the index of forecasting efficiency of a test after correction is made for random errors of measurement in the criterion. A table is included for obtaining this index when the reliability of the criterion and the correlation between test and criterion are known.

361. CURETON, EDWARD E. "On Certain Estimated Correlation Functions and Their Standard Errors," *Journal of Experimental Education*, IV (March, 1936), 252–64.

A distinction is made between "instantaneous reliability" and "average reliability" of test results. A number of standard-error and sampling-covariance formulas are given, together with basic formulas for their derivations.

362. DUNLAP, JACK W. "Nomograph for Computing Biserial Correlations," *Psychometrika*, I (June, 1936), 59–60.

Provides a nomograph for the solution of a convenient formula for biserial correlation.

363. DUNLAP, JACK W. "Note on Computation of Biserial Correlations in Item Evaluation," *Psychometrika*, I (June, 1936), 51–58.

Outlines the steps for computing biserial-correlation coefficients by a time-saving method.

364. EDGERTON, HAROLD A., and KOLBE, LAVERNE E. "The Method of Minimum Variation for the Combination of Criteria," *Psychometrika*, I (September, 1936), 183–87.

Presents a formula for combining several measures so that the differences among the standard scores of the individual shall be minimized.

365. FRÉCHET, MAURICE. "On the So-called Correlation Coefficient," *Journal of Educational Psychology*, XXVII (April, 1936), 304–6.

A discussion of the proper uses of the coefficient of correlation.

366. FURFEY, PAUL HANLY, and DALY, JOSEPH F. "The Subjective Element in the Measurement of Relationship," *Journal of Educational Psychology*, XXVII (April, 1936), 307–9.

The authors' reply to a criticism made by Professor Fréchet (see Item 365) of a statement that they had made concerning the use of *eta*. This article is followed in turn by a short "Note by Prof. Fréchet."

367. GRIFFIN, HAROLD D. "A Further Simplification of the Multiple and Partial Correlation Process," *Psychometrika*, I (September, 1936), 219–28.

Simplified formulas are derived for the computation of multiple and partial correlations of any order.

368. HORST, PAUL. "Obtaining a Composite Measure from a Number of Different Measures of the Same Attribute," *Psychometrika*, I (March, 1936), 53–60.

A formula is derived for combining separate measures "in such a manner that the composite measure will result in giving the maximum difference between all possible pairs of members in the group."

369. KIMBALL, B. F. "Comparison of Scores of Two Populations under Equalization of Scores of Second Attribute," *Journal of Educational Psychology*, XXVIII (February, 1937), 135–43.

Statistical formulas are given for comparing two samples by means of regression equations. The method has the advantage that no individuals are lost through pairing methods.

370. KOLBE, LAVERNE E., and EDGERTON, HAROLD A. "A Table for Computing Biserial 'r,'" *Journal of Experimental Education*, IV (March, 1936), 245–51.

A table has been developed to simplify the calculation of a large number of biserial correlations.

371. KRAMER, EDNA E. *A First Course in Educational Statistics*. New York: John Wiley & Sons, Inc., 1935. Pp. x+212.

An elementary textbook written to give the student the necessary background for an understanding of educational literature. Mathematical aspects are made clear and simple.

372. KURTZ, ALBERT K. "The Use of the Doolittle Method in Obtaining Related Multiple Correlation Coefficients," *Psychometrika*, I (March, 1936), 45–51.

Attention is called to a modification of the Doolittle method whereby the necessary constants are supplied for the computation of (*a*) the C_2^{n-1} multiple-correlation coefficients and (*b*) the multiple correlation between each of several criteria and the same set of independent variables. The method is illustrated with a seven-variable example.

373. LEITH, J. D. "Error in 'Error in the Use of the Standard Error' by W. R. Van Voorhis," *Journal of Educational Psychology*, XXVII (October, 1936), 556–57.

A criticism of Van Voorhis' interpretation of certain assumptions underlying the formula for the standard error of a difference (see Item 406 in the list of selected references appearing in the June, 1936, number of the *School Review*).

374. ROSANDER, A. C. "The Standard Error of a Mean Rank Order," *Journal of Educational Psychology*, XXVII (March, 1936), 193–96.

Derives a formula for the standard error of a mean rank order, which is applicable under certain stated conditions.

375. SCATES, DOUGLAS E. "The General Nature and Applicability of Index Numbers for Education," *Journal of Experimental Education*, IV (March, 1936), 265–78.

Discusses the characteristics of index numbers and describes the uses that have been made and a use that might be made of index numbers in education. A bibliography of approximately fifty titles is included.

376. SWINEFORD, FRANCES. "Note on the Calculation of Chronological Ages," *Journal of Experimental Education*, IV (March, 1936), 301–2.

A table is presented to simplify the calculation of chronological age as of a given date when the date of birth is known.

377. VAN VOORHIS, W. R. "A Reply to J. D. Leith," *Journal of Educational Psychology*, XXVII (October, 1936), 558–60.

The author justifies his earlier statements concerning the misuse of the formula for the standard error of the difference (see Item 373).

378. VERNON, P. E. "A Note on the Standard Error in the Contingency Matching Technique," *Journal of Educational Psychology*, XXVII (December, 1936), 704–9.

Supplements an earlier article (see Item 407 in the list of selected references appearing in the June, 1936, number of the *School Review*) with the standard-error formulas which should be applied under varying conditions.

379. WASHBURNE, JOHN NOBLE. "The Learning Ratio and Its Application," *Journal of Educational Psychology*, XXVIII (February, 1937), 109–21.

The author develops a learning formula and shows how it may be used for interpreting and predicting the outcome of learning experiments.

380. YOUNG, C. W. "The Residual Index," *Journal of Educational Psychology*, XXVII (November, 1936), 625–30.

The formula for calculating the residual index is presented; a formula for its reliability is derived; and its relation to the general theory of partial and semi-partial correlation is pointed out.

381. ZUBIN, JOSEPH. "Note on a Graphic Method for Determining the Significance of the Difference between Group Frequencies," *Journal of Educational Psychology*, XXVII (September, 1936), 431–44.

Suggests a new formula for the critical ratio between frequencies and provides a graphic scheme for calculation of the ratio.

PROBLEMS OF TEST CONSTRUCTION

382. BIRD, CHARLES, and ANDREW, DOROTHY M. "Concerning the Length of New-Type Examinations," *Journal of Educational Psychology*, XXVII (December, 1936), 641–54.

Statistics are presented which challenge the assumption that the long objective test is more economical of time and expense than the essay test. The effect of shortening the former is investigated.

383. BUCKINGHAM, GUY E., and LEE, RICHARD E. "A Technique for Testing Unified Concepts in Science," *Journal of Educational Research*, XXX (September, 1936), 20–27.

A sample comprehensive examination is used to measure the college student's attainment of such standards as correctness, pertinency, and adequacy of data within specific fields.

384. CHAPMAN, DWIGHT W. "The Scoring of Matching-Tests with Unequal Series of Items," *Journal of Educational Psychology*, XXVII (May, 1936), 368–70.

Derives a formula which corrects for chance in scoring matching tests with unequal series of items. A table is given for use in the calculation of such scores.

385. CONRAD, HERBERT S. "The Scoring of the Rearrangement Test," *Journal of Educational Psychology*, XXVII (April, 1936), 241–52.

Presents a method of scoring a rearrangement test whereby the resulting scores are corrected for chance and are positive values which may be combined with the scores from other types of objective items in a "mixed" test.

386. CONWAY, CLIFFORD B. "A New Scoring Apparatus for the Bernreuter Personality Inventory," *Journal of Applied Psychology*, XX (April, 1936), 264–65.

Describes a scoring key devised to increase speed and accuracy in scoring multiple-scale tests, such as the Bernreuter Personality Inventory.

387. DAVIES, J. EARL. "The Relative Effects of Two Kinds of Provision for Response upon the Validity of an Artificial Language Test," *Journal of Educational Research*, XXIX (April, 1936), 593–95.

Compares two methods of scoring an alternate-response test of the type exemplified by the artificial-language test of the Psychological Examination of the American Council on Education, 1932 edition.

388. FEDER, DANIEL D. "The Effect of Directions and Arrangement of Items on Student Performance in a Test," *Journal of Educational Research*, XXX (September, 1936), 28–35.

Three forms of a twelve-item test were administered to a total of 195 students to determine the effects of improving test directions and arranging items in order of difficulty.

389. FLANAGAN, JOHN C. "A Proposed Procedure for Increasing the Efficiency of Objective Tests," *Journal of Educational Psychology*, XXVIII (January, 1937), 17–21.

A form of objective test is suggested by which separate scores for speed and accuracy may be obtained.

390. GILES, G. R. "A New Interests Test," *Journal of Educational Psychology*, XXVII (October, 1936), 527–36.

Describes the construction of an occupational-interests test which utilizes pictures instead of the more usual verbal statements.

391. GOODENOUGH, FLORENCE L. "A Critical Note on the Use of the Term 'Reliability' in Mental Measurement," *Journal of Educational Psychology*, XXVII (March, 1936), 173–78.

Following a discussion of the implications accompanying the various methods of computing test reliability, the author suggests that expressions be employed which are more precise than the blanket term "reliability."

392. GRAY, WILLIAM S. (Editor). *Tests and Measurements in Higher Education.* Proceedings of the Institute for Administrative Officers of Higher Institutions, Vol. VIII. Chicago: University of Chicago Press, 1936. Pp. viii+238.

The various chapters include "not only discussions of basic principles underlying the construction of tests and examinations but also concrete descriptions of the kinds used in various institutions, the practical steps taken in improving the validity and reliability of the tests and examinations used, and the methods adopted in utilizing the results of tests in the selection, guidance, and retention of students and in the improvement of instruction."

393. GUILFORD, J. P. "The Determination of Item Difficulty When Chance Success Is a Factor," *Psychometrika*, I (December, 1936), 259–64.

Presents an item-difficulty formula which corrects for chance. The formula makes possible a comparison between test items which involve different numbers of alternative responses.

394. GULLIKSEN, HAROLD. "The Content Reliability of a Test," *Psychometrika*, I (September, 1936), 189–94.

A formula is derived for measuring the content reliability of an essay test when the total test reliability and the reader reliability are known.

395. HORST, PAUL. "Item Selection by Means of a Maximizing Function," *Psychometrika*, I (December, 1936), 229–44.

An item-selection technique is developed which involves intercorrelations of the items as well as their correlations with the criterion. The routine computation is described and illustrated.

396. JOHNSON, PALMER O. "The Differential Functions of Examinations," *Journal of Educational Research*, XXX (October, 1936), 93–103.

Describes the development of examinations to cover three of the "measurable outcomes of instruction." Illustrative items are drawn from examinations in physics and chemistry, human biology, and basic wealth.

397. MAIZLISH, I. L. "New Possibilities in Intelligence Testing. Interview Form," *Journal of Applied Psychology*, XX (October, 1936), 599–608.

The author describes a "Likes and Dislikes Questionnaire" which can be given individually or as a group test to measure intelligence, vocabulary usage, or certain aspects of personality.

398. NELSON, M. J., and DENNY, E. C. "The Multiple Choice Spelling Test," *School and Society*, XLIV (July 4, 1936), 15–16.

An experiment and a survey of pertinent literature are employed in making a comparison between the written multiple-choice test and oral presentation of test material, with special reference to spelling.

399. RICHARDSON, M. W. "Notes on the Rationale of Item Analysis," *Psychometrika*, I (March, 1936), 69–76.

A summary of facts concerning relations among test items.

400. RICHARDSON, M. W. "The Relation between the Difficulty and the Differential Validity of a Test," *Psychometrika*, I (June, 1936), 33–49.

An experimental investigation to determine the relation between the difficulty of a test or test element and the degree of ability best discriminated by the test.

401. ROYER, ELMER B. "A Formula for Intercorrelations among Multi-scores," *Journal of Educational Psychology*, XXVII (September, 1936), 457–66.

Develops "a formula for estimating the amount of correlation due to the relationships existing among the keys" and compares "this formula with other methods, both as to logical bases and as to results." A number of typographical errors in this article are corrected in a later number of the same journal ("A Correction," *Journal of Educational Psychology*, XXVIII [January, 1937], 80).

402. SCATES, DOUGLAS E. "Complexity of Test Items as a Factor in the Validity of Measurement," *Journal of Educational Research*, XXX (October, 1936), 77–92.

The author defends the thesis that the complexity of test items should parallel the complexity of the abilities which the items are designed to measure.

403. SODERQUIST, HAROLD O. "A New Method of Weighting Scores in a True-false Test," *Journal of Educational Research*, XXX (December, 1936), 290–92

Investigates the effect on test reliability of the weighting of each response by the examinee according to the degree of assurance with which he made the response.

404. STALNAKER, JOHN M. "A Study of Optional Questions on Examinations," *School and Society*, XLIV (December 19, 1936), 829–32.

The author urges that optional questions be eliminated from essay examinations. Statistical data indicate the extent of error of measurement introduced by including optional questions.

405. STOUFFER, SAMUEL A. "Reliability Coefficients in a Correlation Matrix," *Psychometrika*, I (June, 1936), 17–20.

Derives expressions for test correlations in terms of average correlations among parallel forms contained within each test.

406. SWINEFORD, FRANCES. "Biserial r versus Pearson r as Measures of Test-Item Validity," *Journal of Educational Psychology*, XXVII (September, 1936), 471–72.

Discusses the assumptions underlying the formula for biserial correlation and the advantages of its use in test-item analysis.

407. SYMONDS, PERCIVAL M. "Influence of Order of Presentation of Items in Ranking," *Journal of Educational Psychology*, XXVII (September, 1936), 445–49.

On the basis of experimental data the author has computed correction values to be applied to average ranking for the purpose of eliminating the effect of the order of the presentation of the items.

408. VOTAW, DAVID F. "The Effect of Do-not-guess Directions upon the Validity of True-false or Multiple-Choice Tests," *Journal of Educational Psychology*, XXVII (December, 1936), 698–703.

An experimental study of the reactions to "do-not-guess" directions by students of different degrees of achievement in scholarship and different types of temperament.

409. WILEY, LLEWELLYN N., and TRIMBLE, OTIS C. "The Ordinary Objective Test as a Possible Criterion of Certain Personality Traits," *School and Society*, XLIII (March 28, 1936), 446–48.

The ordinary achievement test was used, with a special set of instructions, to measure certain other variables assumed to represent personality traits.

FACTOR ANALYSIS[1]

410. ARCHER, R. L. "A Note on the Theory of the General and Specific Factors in Ability," *British Journal of Educational Psychology*, VI (June, 1936), 165–73.

Discusses the way in which Spearman's *g* and *s* should be interpreted with reference to potentialities and developed skills.

411. ENGELHART, MAX D. "The Technique of Path Coefficients," *Psychometrika*, I (December, 1936), 287–93.

Contains certain equations involved in path-coefficient technique and compares this technique with other methods of analysis.

412. HOLZINGER, KARL J. "Recent Research on Unitary Mental Traits," *Character and Personality*, IV (June, 1936), 335–43.

A summary of the work of the subcommittees of the Unitary Traits Committee, which was formed in 1931 to study methods of factorization.

413. HOLZINGER, KARL J., and SWINEFORD, FRANCES. *Preliminary Report on Spearman-Holzinger Unitary Trait Study:* No. 8, The Estimation of a Factor for an Individual, pp. 21; No. 9, Analysis of 355 Mooseheart Cases, pp. 23. Chicago: Statistical Laboratory, Department of Education, University of Chicago, 1936.

In No. 8 the concepts "ability" and "factor analysis" are defined. Several methods for estimating pupils' factors are described and illustrated with

[1] See also Item 345 (Thurstone) in the list of selected references appearing in the May, 1937, number of the *School Review*.

actual data. No. 9 contains raw correlations and partial correlations with age constant for more than 40 tests given to 355 pupils. A bifactor analysis has been made by using the partial correlations.

414. HOTELLING, HAROLD. "Simplified Calculation of Principal Components," *Psychometrika*, I (March, 1936), 27–35.

The author describes a modification of his iterative scheme of calculating principal components. Both the theory and a numerical example, completely worked out, are presented.

415. KELLOGG, CHESTER E. "The Problem of Principal Components: Derivation of Hotelling's Method from Thurstone's"; "II. The Argument for Communalities," *Journal of Educational Psychology*, XXVII (October and November, 1936), 512–20, 581–90.

The first article demonstrates that Hotelling's method of obtaining principal components, like Thurstone's, can be employed to determine the minimum number of factors to reproduce the correlation matrix within the limits of error. The second article emphasizes the importance of selecting diagonal values which closely approximate the communalities. Illustrates with a numerical example, worked out by the Hotelling technique, with three sets of diagonal values.

416. LEDERMANN, WALTER. "Some Mathematical Remarks concerning Boundary Conditions in the Factorial Analysis of Ability," *Psychometrika*, I (September, 1936), 165–74.

Gives rigorous proofs of certain theorems concerning boundary conditions. This article is a supplement to one by Godfrey H. Thomson in the same issue of *Psychometrika* (see Item 426).

417. LEV, JOSEPH. "A Note on Factor Analysis by the Method of Principal Axes," *Psychometrika*, I (December, 1936), 283–86.

Points out the lack of agreement between the factor methods of Kelley and Hotelling.

418. MONROE, WALTER S. "Note on the Interpretation of Coefficients of Correlation," *Journal of Educational Psychology*, XXVII (October, 1936), 551–53.

Suggests the possibility of interpreting correlation coefficients in terms of variance as revealed through factor analysis.

419. ROFF, MERRILL. "Some Properties of the Communality in Multiple Factor Theory," *Psychometrika*, I (June, 1936), 1–6.

The author develops a number of theorems dealing with communality as defined in the Thurstone multiple-factor theory.

420. SMART, RUSSELL C. "The Variation in Pattern of Factor Loadings," *Journal of Educational Psychology*, XXVIII (January, 1937), 55–64.

An experimental study of the stability of factor weights when small groups of tests are used.

421. STEPHENSON, W. "A New Application of Correlation to Averages," *British Journal of Educational Psychology*, VI (February, 1936), 43–57.

The inverted factor technique is applied to data gathered from children with regard to their preferences for subjects of school examinations.

422. STEPHENSON, W. "Introduction to Inverted Factor Analysis, with Some Applications to Studies in Orexis," *Journal of Educational Psychology*, XXVII (May, 1936), 353–67.

Points out applications in type psychology of the inverted factor analysis technique, in which the tests, traits, etc., comprise the population and the individuals tested become the variables.

423. STEPHENSON, W. "Some Recent Contributions to the Theory of Psychometry," *Character and Personality*, IV (June, 1936), 294–304.

Defines "type psychology" and illustrates a method of type analysis, which "is statistically merely the obverse of present-day psychometry."

424. STEPHENSON, W. "The Foundations of Psychometry: Four Factor Systems," *Psychometrika*, I (September, 1936), 195–209.

Discusses four methods of analyzing a matrix of the measurement of M attributes in N individuals and the implications of each method for different schools of psychology.

425. THOMAS, FRANK C. *Ability and Knowledge*. London: Macmillan & Co., Ltd., 1935. Pp. xx+338.

A simple yet adequate and authoritative account of the theories associated with the name of Professor Charles Spearman. Also includes a comprehensive account of the most important related findings of the "London School" of psychology.

426. THOMSON, GODFREY H. "Boundary Conditions in the Common-Factor-Space, in the Factorial Analysis of Ability," *Psychometrika*, I (September, 1936), 155–63.

The author sets forth "the *necessary* conditions under which a matrix of correlations of minimal rank r can be analyzed into r column factors with at least r zeros in every column of loadings."

427. THORNDIKE, ROBERT L. "Factor Analysis of Social and Abstract Intelligence," *Journal of Educational Psychology*, XXVII (March, 1936), 231–33.

An analysis of the subtests of a social-intelligence test and an abstract-intelligence test to determine whether any distinction between these two kinds of intelligence is justified.

428. THURSTONE, L. L. "The Bounding Hyperplanes of a Configuration of Traits," *Psychometrika*, I (March, 1936), 61–68.

Describes a method of successive approximations for the isolation of the primary factors which are measured by a set of tests.

429. THURSTONE, L. L. "The Factorial Isolation of Primary Abilities," *Psychometrika*, I (September, 1936), 175–82.

A report of an experimental study of the isolation of 12 primary abilities from 56 tests administered to 240 students. Statistical data have not been included.

430. THURSTONE, L. L. "A New Concept of Intelligence and a New Method of Measuring Primary Abilities," *Educational Record*, XVII (October, 1936, Supplement No. 10), 124–38.

An elementary and nonmathematical introduction to the factor theory. The author's methods of factor analysis are described, and some of his results with actual data are presented.

431. WOODROW, HERBERT, and WILSON, LAWRENCE A. "A Simple Procedure for Approximate Factor Analysis," *Psychometrika*, I (December, 1936), 245–58.

Suggests a method for tentatively grouping tests according to the factors which they are assumed to measure.

Educational Writings

REVIEWS AND BOOK NOTES

Freedom to learn and to teach.—Present world-conditions make it particularly fitting to have an analysis of freedom in American teaching.[1] The book, relating mainly to postwar years, deals with influences affecting freedom of teaching. Two preliminary chapters outline the problem and sketch the historical background. Eight chapters, all with the main heading "Freedom of Expression," deal with "War Problems," "Peace and Internationalism," "Patriotism," "Politics," "Economic and Social Questions," "History," "Religion," and "Science." A chapter notes the schools' dependence on textbooks, politician and administrator selection versus teacher selection of books, and the influence of pressure groups on authors. Chapter xii treats curriculum-making, method, libraries, and teacher participation in administration. Chapter xiv, "Private Schools," comments on state regulation, on "cram schools," finishing schools, academies, and religious schools. Chapter xv discusses the problems of "Teachers for Negroes." Chapters xiii, xvi, and xvii deal with teacher conduct, tenure, and appointments. Tenure is evaluated in relation to freedom and its influence in maintaining teaching positions free from spoils politics. Loopholes in tenure laws and the value of tenure for educating communities regarding freedom are also discussed. Appointment, says Beale, is the avenue of greatest control. He comments on the inquisition of applicants and evaluates nationality, residence, sex, marital status, race, religion, and political affiliations as appointment factors.

Two chapters deal specifically with pressure groups. Patriotic groups, the press, politicians, business, and labor are discussed in the chapter on "Extra-scholastic Pressures"; and favoritisms, student attitudes, parents, donors, other teachers, school officials, and traditions in the chapter on "Intra-scholastic Pressures."

The last four chapters discuss the desirability and the possibility of freedom of teaching and means of securing it. Among "Forces That Destroy Freedom," Beale considers economic factors, religious and moral factors, psychological

[1] Howard K. Beale, *Are American Teachers Free?* An Analysis of Restraints upon the Freedom of Teaching in American Schools. Report of the Commission on the Social Studies of the American Historical Association, Part XII. New York: Charles Scribner's Sons, 1936. Pp. xxiv+856. $3.50.

factors, political factors, democracy, and educational factors. In the chapter on freedom in relation to educational purpose, the point is made that, if the school is merely to pass on our heritage or to indoctrinate a new gospel, freedom is undesirable but that, if the school is to train for social analysis and reconstruction, freedom is indispensable. As a means of increasing freedom, Beale places little hope in teacher participation in administration or in tenure laws but more in improved teacher training, in organization of teachers, and in adult education. The final chapter, "How Much Freedom Is Possible or Desirable?" suggests that teachers be judged by their peers, urges freedom for children and community, and emphasizes that restrictions on the freedom of teachers generate cowardice and hypocrisy among those who train youth.

The Appendix presents the questionnaire used in the investigation and pertinent comment. A bibliography indicates the persons interviewed, refers to correspondence with teachers, and mentions other materials used. There is an index of fifty-five pages.

Beale's view is liberal, yet he interprets objectively his abundance of well-documented material. Repetitions appear, and some readers may think that less evidence would have been necessary to establish the thesis. Particular data often bear on several considerations, however, and abundance of data helps to avoid cynical criticism that the evidence has been hand-sorted. Beale could better have camouflaged one subject-matter specialist's weakness—the tendency to consider educational method as the use of "tricks" rather than the employment of experimentally determined procedures. The author thoroughly analyzes the reasons for restricted freedom in teaching; for the importance of freedom from ignorance, as well as from selfish motives; for freedom of teachers from a "hired-man" control by taxpayers; and for the difference between the views expounded by administrators at conventions and the practices in evidence at home. He also suggests methods of attaining greater freedom. The book should be decidedly stimulating to teachers at all levels who have sufficient background and alertness to know what teaching and intellectual freedom are, as well as to reflective persons in other walks of life who see the relation between the past and future progress of society and freedom to think, discuss, and experiment.

HAROLD H. PUNKE

GEORGIA STATE WOMAN'S COLLEGE
VALDOSTA, GEORGIA

Theory and practice in discipline.—Within recent years the problem of discipline in the school has received extended attention in publications in the fields of psychology, mental hygiene, and public-school administration. As a result, the modern concept of discipline has been developed. According to this concept attention is focused not merely on correcting the symptoms of misbehavior but on removing the underlying causes. In line with this view, punishment and retribution should give way to constructive effort to locate and remove

the conditions in the school and the home environment of the child which manifest themselves in overt conduct of an undesirable nature.

Since practice frequently lags behind theory, it is important to get some notion of the extent to which the actual administration of discipline in the secondary school conforms to the accepted ideal. A recent investigation by Garinger[1] throws light on this question. This report of current practice is based on the replies to a questionnaire submitted by the principals of 312 high schools. The schools varied in enrolment from less than a hundred to six thousand. In the tabulation of the responses, the schools were classified into three groups: small schools (fewer than 750 pupils), medium schools (750–1,499 pupils), and large schools (1,500 or more pupils). Each of these groups was well represented, and administrative practice at each level is reported in the study. A similar comparison is included between schools in the eastern and the western sections of the United States.

Each principal was asked to record the frequency of occurrence in his school of each of twenty selected offenses and his judgment of the seriousness of the offense in the future adjustment of the pupil. Another section of the questionnaire called for an indication of the disciplinary measures or devices employed and for a description of the administrative organization of the school for dealing with discipline. Further questions dealt with the frequency with which the disciplinary devices are used, by whom they are employed, the routine or general practice followed in dealing with disciplinary problems, and the extent to which the school assumes responsibility for the behavior of pupils when they are away from school.

The attitude of the average principal represented in this inquiry is not encouraging. In practice he does not appear to be committed to the newer concepts of discipline. Offenses regarded as most serious are frequently not those which are likely to affect the future adjustment of the pupil but those which annoy and irritate the principal or the teacher because of their disturbing effect on school routine. Similarly, offenses which do not interfere with order or management are reported as occurring infrequently, probably because the principal was not aware of them or was not concerned about them. Measures of disciplinary control are characterized by punishment rather than the rearrangement of the environment. The principal is still concerned with punishing the symptom rather than with removing the cause. Returns also indicate that maximum use is not made of educational guidance and remedial programs nor of the program of extra-curriculum activities as positive factors in the improvement of discipline. There is little disposition on the part of high-school principals to assume responsibility for the conduct of pupils when away from the school.

[1] Elmer Henry Garinger, *The Administration of Discipline in the High School.* Teachers College Contributions to Education, No. 686. New York: Teachers College, Columbia University, 1936. Pp. viii+106. $1.60.

In his presentation of these findings the author constantly relates the practices disclosed to the modern principles which, it is rather generally agreed, should pertain in such situations, and the implications of each bit of evidence are explicitly stated. The book should provide a positive stimulus to improvement in the administration of discipline.

OLIVER R. FLOYD

UNIVERSITY OF MINNESOTA

The motion picture as literature.—In March, 1923, there appeared in this journal an article written by Charles H. Judd which called for the introduction into the high-school curriculum of instruction calculated to develop in pupils a discriminatory and evaluative attitude toward the theatrical motion picture. From that time until 1933, when the Payne Fund studies appeared, little further attention was given to this idea in the educational journals. Since 1933, however, a number of articles and editorials have made their appearance in educational journals. The book here under discussion[1] represents a further phase in the whole program of understanding and utilizing the motion picture as a fundamental educational agent in our modern society.

It is a curious but understandable fact that those who have produced motion pictures have done least in producing a vital literature concerning them. Those interested in the art of the motion picture will welcome this book by a person who writes from the point of view of a producer of films. The content of the book is occupied primarily with four complete shooting scripts of successful motion pictures: "Lady for a Day," "The Story of Louis Pasteur," "It Happened One Night," and "Little Women." An introductory chapter, "How Scripts Are Written," gives a brief yet penetrating comment on the art of scenario-writing.

This book should prove especially useful to those high schools, colleges, and universities which are already offering courses dealing with the theatrical motion picture. It supplies a tangible content supplementing the motion pictures themselves, which unfortunately cannot always be secured for viewing at the time of class study.

This volume further provides necessary assistance in promoting the art of scenario-writing. The growing literature in this field may make it possible to develop a much more thoughtful program of training prospective scenario-writers, something that has thus far been ineptly and inadequately handled.

EDGAR DALE

OHIO STATE UNIVERSITY

Helps in teaching music appreciation.—The course in musical literature, sometimes designated "listening lessons," has become a conspicuous phase of the music curriculum in many progressive schools. Plans or outlines of various

[1] *Four-Star Scripts:* Actual Shooting Scripts and How They Are Written. Edited by Lorraine Noble. Garden City, New York: Doubleday, Doran & Co., Inc., 1936. Pp. viii+392. $1.50.

types have been devised, and a considerable number of books dealing with the subject are available. Yet the manual under review[1] is unique in the field; for, in addition to the usual data about compositions, it provides a "theme finder," to be used with phonographic recordings, and charts for the "translaphon," an instrument which permits repetition of parts of selections as desired by the player. Although the translaphon is not found as yet in many schools, it is sufficiently available to justify the plan followed by the author.

The four chapters of the book are devoted to discussions of the structure of music, dance suites, the symphony, and dramatic music. The following compositions are selected for analysis: "Alcina Suite" by Handel, "Suites No. 5 in G Major" and "No. 3 in D Major" by Bach, "The Surprise Symphony" by Haydn, "Symphony in G Minor" by Mozart, "Fifth Symphony" by Beethoven, overture to "The Marriage of Figaro" by Mozart, overture to "Euryanthe" by Weber, "The Meistersinger" prelude by Wagner, and "Til Eulenspiegel's Merry Pranks" by Strauss. Principal themes of these compositions are given in musical notation.

Comments in a book of this size are necessarily fragmentary. In the main, they are effective and authentic. The reviewer, however, questions the pronunciation of *Gigue* given as "shig." Many musicians might take issue with Miessner's statement that major scales extend from do to do and minor scales from la to la. To be sure, this statement is commonly accepted in vocal music as taught in public schools; but, from the standpoint of the teacher and student of theory or harmony, the beginning and ending tone in the minor mode is considered the tonic, or I, the same as in the major scale. Also, the use of the solfeggio or sol-fa syllables presupposes a universal familiarity with these which does not exist. Explanation in terms of number or degree would therefore have been desirable. The musical novice might be confused with some of the technical terminology used, for example, "stretto of quick passages built upon the cadence formula I–IV–V–I" (p. 50).

With a teacher to explain, or books (such as those listed on pages 15, 16, 39, and 60) to supplement the material presented, or with even a meager musical background, this manual will doubtless accomplish what the author has hoped it would: "to aid the 'hearer' to recognize what he hears when he hears it and to assist those who desire to know what is 'going on' in the music" (p. 6). It will be particularly useful in high-school or college classes dealing with music appreciation.

The book is made with durable stiff paper binding, good quality paper, and clear print. A complete table of contents is provided.

ANNE E. PIERCE

UNIVERSITY OF IOWA

An experiment in teaching shorthand.—Tentative answers to a goodly number of questions arising in the teaching of Pitman shorthand are found in the data

[1] W. Otto Miessner, *A Guide to Symphonic Music:* Development of the Symphony. Newark, New Jersey: Silver Burdett Co., 1936. Pp. 90. $1.00.

from classes taught by seven teachers in a New York high school.[1] The primary aim of shorthand study was assumed to be the ability to take verbatim dictation at a reasonable rate of speed for later transcription. The materials, which were especially constructed, took account of the following criteria: the use of business letters as the medium of instruction, emphasis on high-frequency words, greatest emphasis of repetition on words highest on the frequency list, and gradation of learning difficulty. Fourteen principles were set up for shorthand-teaching. Reading, writing, and dictation practice were given from the beginning of the course. Objective tests for evaluating differences between the experimental group and the control group were given toward the end of the second and the third semester's work. Comparisons of outcomes in the learning of shorthand were made, and the effects of various factors on pupils with mental ages between 180 and 205 months were studied.

The results of the experiment indicate that the method which appears to be more desirable for the objective of transcription of dictation is in apparent conflict with the method which is more effective in teaching shorthand principles. The data imply that the learning process during the entire first year should be similar to that commonly practiced in the advanced work and that the simultaneous building of reading and writing habits is highly desirable.

ANN BREWINGTON

A half-year course in physics.—An abbreviated textbook in high-school physics[2] which is particularly designed to meet the needs of pupils not going to college has made its appearance. The book seeks to present the simpler and the more practical aspects of the subject and to correlate the work with what the pupil has already learned in earlier science courses. An attempt has been made to avoid the use of technical language and the difficult mathematical concepts which have led many pupils to look on physics as a "hard" subject. The book may be covered in one semester.

The course as outlined opens with a discussion of molecular phenomena. This discussion is followed in order by chapters on sound, light, heat, mechanics, magnetism, and static electricity and by three chapters devoted to current electricity and its applications. The book is well printed and is supplied with a generous number of good illustrations. At the end of each chapter are a number of review questions which may be used to test for mastery.

The book impresses the reviewer as a rather well-handled, conservative abbreviation of the usual year's course in physics. The teacher who uses it as a textbook, however, will find it necessary, in order to make the subject interesting

[1] Benjamin Franklin Davis, *A Study of Shorthand Teaching:* Comparison of Outcomes in the Learning of Shorthand Effected by Differences in Teaching Methodology. Teachers College Contributions to Education, No. 693. New York: Teachers College, Columbia University, 1936. Pp. viii+108. $1.60.

[2] Sherman R. Wilson, *Descriptive Physics.* New York: Henry Holt & Co., 1936. Pp. x+232. $1.20.

and realistic, to employ other teaching materials and methods. Because of its brevity the book tends to be somewhat encyclopedic in character, and supplemental reading, lecture demonstrations, and discussions based on out-of-school observation and experience would seem to be highly desirable. Of course, most textbooks need to be supplemented in this way in varying degrees.

The appearance of a textbook of this nature raises the question of the desirability of separate semester courses in physics and chemistry. The old half-year courses in physiology, physiography, geology, zoölogy, and botany have almost entirely disappeared. In their places has been developed a three-year program in general science for Grades VII, VIII, and IX. Many educators believe that the integration or unification of science courses should be extended into the senior high school. There is more reason for this reorganization in non-college-preparatory courses than in courses which are designed to prepare pupils to take the specialized and formal science courses in institutions of higher learning. These more popular general-science courses could be made to include scientific materials of large general interest and value which are not found at present in any of the present too narrow, too academic, specialized courses. They could be made to correlate the work more intimately and to apply it more completely to the practical situations of life outside the school. The upper levels of the high school rather than the lower levels of the college would seem to be the proper place for the broad orientation courses in science which many colleges have recently introduced. If new courses of a non-college-preparatory type are to be offered in the sciences, high-school teachers should seriously consider the desirability of developing outlines and textbooks of a more general and comprehensive nature.

R. J. Bradley

Macalester College
St. Paul, Minnesota

Vitalizing civic education.—The recent emphasis given to the reorganization of civic education is bringing out a number of textbooks that lead the young citizen to a better understanding of all the forces playing on his civic life and community responsibilities. The book under consideration,[1] planned primarily for a ninth-grade course, makes a very real attempt to vitalize citizenship training by giving the pupil this understanding. The importance of geographical influences, the historical roots of institutions, the great importance of economic life and the complementary social problems are integrated in this book, which attempts to teach government as a great driving, technical, co-operative undertaking.

The volume is organized into six sections, called parts, corresponding generally to a unitary organization but without overviews or summaries. Part I considers problems of men's living together, with strong emphasis on economic

[1] Clyde B. Moore, *Our American Citizenship*. New York: Charles Scribner's Sons, 1936. Pp. xvi+496. $1.40.

needs. Part II is a study of America's resources, in which emphasis is placed on thrift, education, and institutions of commerce. Part III leads the pupil into a study of the co-operative nature of American industry and gives him insight into life in different communities and into vocations and consumers' problems. Part IV is a treatment of the general desirable attitudes on citizenship in our democracy. Part V presents material on governmental functions and organization. Part VI discusses individual and governmental budgets.

This book integrates government with the vital economic and social forces in our country today and relates these forces to the historical roots of our institutions and to the geographical influences. For the better pupil it will be an interesting and usable textbook, but for the average and the below-average pupil it probably will not be the clear and vital instrument that the author intends it to be. Without encouraging too much simplicity and "writing down" to the level of the slower group, one may call attention to the fact that the sin of textbook-writers still is to assume that the pupil understands all things quickly and easily and goes along thoroughly with the thought of the author.

The chief weakness in this book probably lies in the teaching aids and learning activities at the ends of the chapters. While many of these are satisfactory, it seems that not enough attention has been directed to this important part of the book. Not only should a greater number of such aids have been used, but a greater variety of activities could have been suggested and many things that send pupils into a study and an examination of the life about them could have been indicated. The same criticism holds for the list of references. Practically all references listed are other well-known textbooks for secondary schools. A carefully selected set of materials of a different type, such as source materials and government publications, would help the pupil greatly.

W. Francis English

Carrollton High School
Carrollton, Missouri

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

Brunner, Edmund deS., and Lorge, Irving. *Rural Trends in Depression Years:* A Survey of Village-centered Agricultural Communities, 1930–1936. New York: Columbia University Press, 1937. Pp. xvi+388. $3.25.

Englehardt, Fred, and Overn, Alfred Victor. *Secondary Education:* Principles and Practices. New York: D. Appleton-Century Co., Inc., 1937. Pp. xvi+624. $2.75.

Fraser, Mowat G. *The College of the Future:* An Appraisal of Fundamental Plans and Trends in American Higher Education. New York: Columbia University Press, 1937. Pp. xx+530. $3.75.

Library Trends: Papers Presented before the Library Institute at the University of Chicago, August 3–15, 1936. Edited with an Introduction by Louis R. Wilson. Chicago: University of Chicago Press, 1937. Pp. xvi+388. $2.00.

PLANT, JAMES S., M.D. *Personality and the Cultural Pattern.* New York: Commonwealth Fund, 1937. Pp. x+432. $2.50.

TIDYMAN, WILLARD F. *Directing Learning through Class Management.* New York: Farrar & Rinehart, Inc., 1937. Pp. viii+540. $2.50.

WEXBERG, ERWIN, M.D., with HENRY E. FRITSCH. *Our Children in a Changing World:* An Outline of Practical Guidance. New York: Macmillan Co., 1937. Pp. xii+232. $2.00.

WYNNE, JOHN P. *The Teacher and the Curriculum.* New York: Prentice-Hall, Inc., 1937. Pp. xxii+440. $2.50.

BOOKS PRIMARILY FOR HIGH-SCHOOL TEACHERS AND PUPILS

An Appraisal and Abstract of Available Literature on: *The Occupation of the Insurance Salesman* by Sigmund Adler, pp. 8; *The Occupation of the Barber* by A. E. Schoettler, pp. 8; *Linotype Operation as an Occupation* by De Witt S. Morgan, pp. 8; *The Occupation of the Motion Picture Actor* by Shirley Wells, pp. 10; *Pharmacy as an Occupation* by Irvin S. Noall, pp. 8; *Photography as an Occupation* by Maynard L. Sandell, pp. 12; *Teaching as an Occupation* by Marguerite G. Healy and Marie McNamara, pp. 12; *Waiters and Waitresses* by John F. Murphy, pp. 6. New York: National Occupational Conference, 1937.

COOVER, J. E. *The NoteScript Manual:* For Self-Instruction or Use in Classes in Schools and Colleges, pp. xxvi+152, $2.50; NoteScript Reading Text: Vol. I, pp. viii+136, $1.70; Vol. II, pp. viii+137–268, $1.70. Stanford University, California: NoteScript Publishing Co. (Box 3001), 1936 and 1937.

Essays of Our Day. Edited by Bertha Evans Ward. New York: D. Appleton-Century Co., Inc., 1937 (revised and enlarged edition). Pp. xii+460. $1.48.

GEORGES, JOEL S., ANDERSON, ROBERT F., and MORTON, ROBERT L. *Mathematics through Experience,* Book III. Newark, New Jersey: Silver Burdett Co., 1937. Pp. x+486. $1.28.

JONES, LLOYD L. *Our Business Life.* New York: Gregg Publishing Co., 1936 (complete edition). Pp. viii+660. $1.50.

KINSEY, ALFRED C. *Methods in Biology.* Philadelphia: J. B. Lippincott Co., 1937. Pp. x+280. $2.50.

1937 Essay Annual: A Yearly Collection of Significant Essays: Personal, Critical, Controversial, and Humorous. Edited by Erich A. Walter. Chicago: Scott, Foresman & Co., 1937. Pp. x+374. $1.00.

Notable Short Stories. Selected and edited by Raymond McFarland. New York: Macmillan Co., 1937. Pp. xvi+424. $1.00.

Recent Stories for Enjoyment. Selected and edited by Howard Francis Seely and Margaret Roling, pp. xii+360+xl, $1.28; *Helping Pupils Enjoy Short Stories* by Howard Francis Seely, pp. 24, $0.32. Newark, New Jersey: Silver Burdett Co., 1937.

RUGG, HAROLD. Man and His Changing Society: Vol. IV of the Junior High School Course, *America's March Toward Democracy:* History of American Life: Political and Social. Boston: Ginn & Co., 1937 (revised). Pp. xii+516. $1.96.

RYAN, MILDRED GRAVES. *Your Clothes and Personality.* New York: D. Appleton-Century Co., Inc., 1937. Pp. xiv+390. $1.72.

Sound Driving Practices. Sportsmanlike Driving Series. Washington: American Automobile Association, 1937. Pp. 108.

TRESSLER, J. C. *"English in Action" Practice Book:* Book I, Course II, pp. iv+124 and 6 tests; Book II, Course III, pp. vi+106 and 10 tests; Book II, Course IV, pp. vi+126 and 12 tests. Boston: D. C. Heath & Co., 1936 and 1937. $0.40 each.

WHITE, ALICE M. G., and TOBITT, JANET E. *Dramatized Ballads.* New York: E. P. Dutton & Co., Inc., 1937. Pp. 192. $2.00.

PUBLICATIONS OF THE UNITED STATES OFFICE OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

ARNETT, TREVOR. *Observations on the Financial Condition of Colleges and Universities in the United States, with Special Reference to the Effect of Current Interest Rates on Endowment Income.* Occasional Papers, No. 9. New York: General Education Board (49 West Forty-ninth Street), 1937. Pp. 26.

CHAMBERLAIN, LEO M., and MEECE, LEONARD E. *Women and Men in the Teaching Profession.* Bulletin of the Bureau of School Service, Vol. IX, No. 3. Lexington, Kentucky: University of Kentucky, 1937. Pp. 62.

Deliberative Committee Reports of 1936. Washington: Educational Policies Commission of the National Education Association and the American Association of School Administrators, 1937. Pp. 10.

Educational Sociology. Review of Educational Research, Vol. VII, No. 1. Washington: American Educational Research Association of the National Education Association, 1937. Pp. 112.

FOSDICK, RAYMOND B. *The Rockefeller Foundation:* A Review for 1936. New York: Rockefeller Foundation, 1937. Pp. 58.

HANSEN, GEORGE H. *A Regional Redistricting Plan for the State of Utah.* Brigham Young University Studies, No. 5. Provo, Utah: Brigham Young University Press, 1937. Pp. 60.

The Junior High School in Child Growth. Ann Arbor, Michigan: Board of Education, 1937. Pp. 12.

KIMBALL, BRADFORD F. *Changes in the Occupational Pattern of New York State.*

Educational Research Studies, 1937, No. 2. Albany, New York: University of the State of New York, 1937. Pp. 190.

Let's See. Twenty-second Annual Report of the National Society for the Prevention of Blindness. New York: National Society for the Prevention of Blindness, Inc. (50 West Fiftieth Street), 1936. Pp. 16.

1937 Legislative Proposals Affecting Education. State Department of Education Bulletin No. 5. Sacramento, California: State Department of Education, 1937. Pp. iv+74.

OTIS, ARTHUR S. Otis Quick-scoring Mental Ability Tests. Yonkers-on-Hudson, New York: World Book Co., 1936 and 1937.

PETERS, CHARLES C. *Abstracts of Studies in Education at the Pennsylvania State College,* Part VII (1937). Pennsylvania State College Studies in Education, No. 19. State College, Pennsylvania: Pennsylvania State College. Pp. 62. $0.25.

Pupil Guidance in the Junior High Schools. Ann Arbor, Michigan: Board of Education, 1937. Pp. 52.

Recent issues of the Office of Education:

Bulletin No. 2, 1935—*Statistics of Public High Schools, 1933–34:* Being Chapter V of the *Biennial Survey of Education in the United States: 1932–34* (advance pages) by David T. Blose and Carl A. Jessen. Pp. vi+76.

SMITH, HENRY LESTER, and PAINTER, WILLIAM ISAAC. *Bibliography of Literature on Education in Countries Other than the United States of America.* Bulletin of the School of Education, Indiana University, Vol. XIII, No. 2. Bloomington, Indiana: Bureau of Co-operative Research, Indiana University School of Education, 1937. Pp. 342. $0.75.

"State Aid to Private and Sectarian Schools." Compiled by the Research Division of the National Education Association. Washington: National Education Association, 1937. Pp. 36 (mimeographed). $0.15.

Suggestions for the Development and Use of Curriculum Materials in the Elementary School. Pennsylvania Curriculum Studies, Bulletin 110. Harrisburg, Pennsylvania: State Department of Public Education, 1936. Pp. 92.

MISCELLANEOUS PUBLICATIONS

MARTIN, OLGA J. *Hollywood's Movie Commandments:* A Handbook for Motion Picture Writers and Reviewers. New York: H. W. Wilson Co., 1937. Pp. 302. $2.75.